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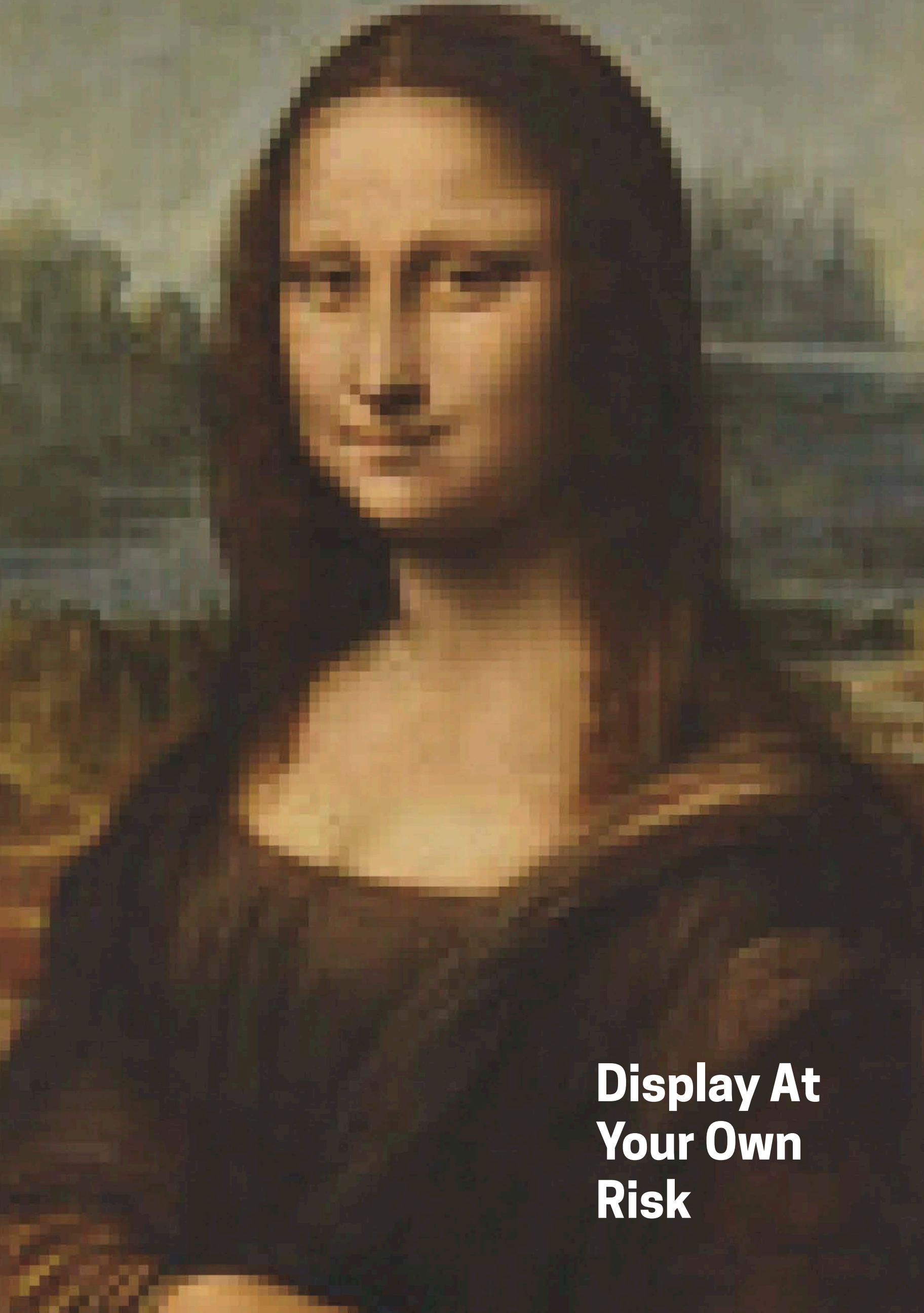
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**Display At
Your Own
Risk**



Display At Your Own Risk

*AN EXPERIMENTAL EXHIBITION OF
DIGITAL CULTURAL HERITAGE*

Andrea Wallace and Ronan Deazley

with contributions by

Simon Tanner, Megan Rae Blakely, Liz Neely, Fred Saunderson,
Victoria Stobo, Kerry Patterson, Paul Torremans, Pauline McBride,
Lubna El-Gendi, Owen Mundy, Patty Gerstenblith

On left: ma-34009488, Los Angeles County Museum of Art, 83.434 px/in, 2016. Winslow Homer (American, 1836-1910),
The Cotton Pickers, 1876, Oil on canvas, 61.12 x 96.84 cm, Los Angeles County Museum of Art, Los Angeles. www.lacma.org.
This digital surrogate is in the public domain.

Display At Your Own Risk: An experimental exhibition of digital cultural heritage (2016)

A research-led exhibition experiment concerned with the use and reuse of digital surrogates of public domain works of art produced by cultural heritage institutions of international repute.

This publication is issued in conjunction with the exhibition *Display At Your Own Risk*, held at The Lighthouse in Glasgow and made available as an open source exhibition at displayatyourownrisk.org. The print exhibition is on view in Glasgow on 8 June 2016.

This research is funded by Research Councils UK, the Arts and Humanities Research Council, the Economic and Social Research Council and the Engineering and Physical Sciences Research Council.

The exhibition is supported in part by the National Library of Scotland, the Glasgow Print Studio and the Glasgow University Archive Services. Print services for the exhibition were provided by the National Library of Scotland and the Glasgow Print Studio; digitization services were provided by the University of Glasgow Photographic Unit within the Glasgow University Archive Services.

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Please share your use of the DAYOR Open Source Exhibition by using the #myDAYOR tag on Twitter and Facebook. Sharing your use is not required, but it is important for the research purposes of this project.

Displayatyourownrisk.org
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BACK COVER: SK-A-268-01, Rijksmuseum, 216.543 px/in, 2016. Abraham Mignon (German, 1640-1679), *Still Life with Flowers and a Watch*, c. 1660 - c. 1679, Oil on canvas, 75 x 60 cm, Rijksmuseum, Amsterdam. Rijksmuseum, Amsterdam. This digital surrogate is © Rijksmuseum, Amsterdam.

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FOREWARD

All too often, cultural institutions frame their online terms of use by telling users what they cannot do with the content made available on their website, rather than focusing on what users can do with that content. We don't want to make the same mistake. The intellectual concerns that underpin this project are explored at length in this publication, but first and foremost we want users to engage with *Display At Your Own Risk*, creatively and otherwise.

So, here are some of the things that you can do with the images and files within this online resource: print them out for pleasure or for study; hang them on the walls of your home or office; use them to create your own digital or analogue artwork; use them to order fabric and make curtains, a tablecloth, or something wearable; take the metadata and repurpose it, perhaps as a poem or as lyrics for a song. These suggestions are by no means exhaustive. You should be guided by your own intuition and interests. And above all, take time to enjoy the works in this exhibition. We have.

You could, of course, decide to host your own version of *Display At Your Own Risk*. If so, you have two choices: you might choose from the selection of works included in the *Display At Your Own Risk* exhibition folder; alternatively, you might choose to curate your own exhibition. Should you choose the latter, instructions for how to *Curate At Your Own Risk* are included in the open source exhibition file, along with the exhibition folder containing our selections.

But whatever you do, please share with us your use of this experimental exhibition by tagging it on Twitter and Facebook as #myDAYOR.

Display At Your Own Risk features digital surrogates of public domain works of various sizes, resolutions, and formats printed to the material object's original dimensions. The exhibition is guided by a number of concerns. By printing the digital surrogate to the work's original dimensions, it invites reflection on the nature and quality of the reproductions that institutions make available online in place of the material object within their care. It considers the meaning of concepts such as access, transparency and user engagement in an age where digital collections are becoming increasingly relevant. And it explores tensions inherent in the ownership and use of cultural heritage, as well as the validity of the authorial claims that institutions assert over these digital surrogates – surrogates that are often viewed as new and independent assets.

The digital surrogates selected for the exhibition represent some of the most treasured material objects of cultural heritage in the world. This catalogue is a testament to the cultural institutions trusted with the protection and preservation of these objects, as well as the difficulties overcome in making digital surrogates and releasing them online. The curator expresses her deep gratitude to the 52 institutions from 26 countries whose generous efforts have made this exhibition possible. It is with great pleasure that this collection of 100 digital surrogates is presented to the public.

ANDREA WALLACE

Andrea Wallace is a Postgraduate Researcher and PhD Candidate in Cultural Heritage Law with CREATE at the University of Glasgow and the National Library of Scotland in Edinburgh. She conceived of and curated the exhibition and its online component.

RONAN DEAZLEY

Ronan Deazley is the Professor of Copyright Law at Queen's University Belfast.

FEATURED CULTURAL INSTITUTIONS

Acropolis Museum	The National Archives
The Art Institute of Chicago	National Archives of Australia
Belvedere	National Galleries of Scotland
Bridgestone Museum of Art	National Gallery, London
British Library	National Gallery of Art
British Museum	National Gallery of Canada
Davison Art Center, Wesleyan University	National Gallery of Denmark – Statens
Galleria d’Arte Moderna di Palazzo Pitti	Museum for Kunst
Indianapolis Museum of Art	National Gallery of Ireland
The Israel Museum	National Gallery of Victoria
The J. Paul Getty Museum	National Library of Scotland
Kelvingrove Museum	National Library of Wales
Kunsthhaus Zürich – The Museum for	National Museum of Art, Architecture
Modern Art in Zurich	and Design – Nasjonalmuseet, Oslo
Kunsthistorisches Museum Wien	National Museum of Korea
Kyoto National Museum	National Palace Museum
Library of Congress	Queensland Art Gallery, Gallery of
Los Angeles Country Museum of Art	Modern Art
The Metropolitan Museum of Art	Rijksmuseum
Musée d’Orsay	Staatliche Museen zu Berlin
Musée du Louvre	State Hermitage Museum
Musée royaux des Beaux-Arts	Tate, London
de Belgique	Van Gogh Museum
Museo Nacional Del Prado	Victoria and Albert Museum
Museo Nacional Centro de Arte	Walters Art Museum
Reina Sofía	Yale Center for British Art
Museu Nacional d’Art de Catalunya	
Museu Nacional, UFRJ	
Museum für Kunst und Gewerbe	
Hamburg	
Museum of Fine Arts, Boston	
Museum of Modern Art	
Museum of New Zealand	
Te Papa Tongarewa	

On right: 57577_1871930, The Art Institute of Chicago, 6.483 px/in, 2016. Mary Cassatt (American, 1844-1926), The Child's Bath, 1893, Oil on canvas, 100.3 x 66.1 cm, The Art Institute of Chicago, Chicago. This digital surrogate is © The Art Institute of Chicago.







ACKNOWLEDGEMENTS

Andrea Wallace:

Special thanks must be given to a number of those who provided various types of support for this project. It is with great pleasure that I extend my appreciation to the individuals, institutions and organizations that have made this exhibition possible.

First and foremost, thank you to all cultural institutions with online collections. As the exhibition focuses on digitization effects and public access and reuse, it includes only cultural institutions which have made digital surrogates available online; as such, it excludes institutions that do not have online collections. Indeed, the exhibition represents only a sample of institutions with online collections; a number of others have opened their collections online to the public, and even more are currently in the painstaking process of taking steps toward that goal. After years of making reproductions, negotiating for more open policies, and opening access to online collections, cultural institutions have empowered the general public with access to digital surrogates of material cultural heritage located in every corner of the world. The impact these efforts have had on public education and cultural enrichment is immeasurable.

I owe my chief debt of gratitude to Ronan Deazley for the many insights and advice offered during this project. What started as a practical quandary led to a formal research question and, subsequently, this exhibition, with countless invaluable conversations in between.

Special thanks go to the contributors to this publication: Megan Blakely, Lubna El-Gendi, Patty Gerstenblith, Pauline McBride, Owen Mundy, Liz Neely, Kerry Patterson, Fred Saunderson, Victoria Stobo, Simon Tanner, and Paul Torremans. I am in awe of you, and deeply indebted to you for your rich contributions not only to this publication, but also in your respective fields.

In the production of this exhibition, I owe gratitude to a network of support. First, for their beautiful work in printing the exhibition artworks, I am most grateful to the National Library of Scotland, in particular George Morrison and the staff in the print unit, as well as the Glasgow Print Studio, specifically Al Gow, Murray Robertson, and Anders Behn-Eschenburg. For the digitization of the artworks, I thank the Glasgow University Archive Services, specifically Samuel Dyer of the University of Glasgow Photographic Unit, Lesley Richmond, and Stephen McCann. In the spirit of the exhibition and the issues it explores, it seems appropriate a cultural institution, a commercial organization, and an educational institution all lent services in support of each other to aid in the exhibition's realization.

In the production of the website and the open source exhibition, I owe gratitude to Andrew McHugh and Jesus Rodriguez Perez for their tireless technical support. Digital issues in digitization can quickly turn meta; Andrew and Jesus consulted me heavily during my own process of digitizing the digital surrogates, managing the metadata, launching the website, and organizing the open source exhibition file.

I received help and advice from many individuals. I am most grateful to Robin Smith and Fred Saunderson at the National Library of Scotland for their support, as well as my CREATE supervisors at the University of Glasgow, Martin Kretschmer and Kris Erickson. Thank you also to Jamilee Polson Lacy for her help in developing the concept and pushing its boundaries.

A catalyst for this exhibition's conception was my experience during the summer of 2015 at the metaLAB Beautiful Data II workshop at Harvard University, made possible with support from the Getty Institute. I cannot stress enough the impact those two weeks in Cambridge, Massachusetts, had on the development of my research. Thank you to the metaLAB team, the workshop participants, and the Getty Institute for creating the perfect storm to nurture in me a greater appreciation of issues in digital surrogacy.

Finally, I thank those in my personal life. First, my CREatic Postgraduate Researcher 'support team' and my friends in Glasgow (you know who you are) for enduring months of fragmented telephone calls and my absentminded attempts at maintaining a friendship, and especially Mark Fitzpatrick. Second, my family back across the pond, who are always so supportive even though I constantly fill their ears with copyright talk and updates in the law. Last, my partner, Michael. Love may be blind, but I think I owe you a nice vacation (or four).

Ronan Deazley:

I'd like to thank Andrea Wallace for three things. First: for introducing me to *The Spanish Wedding* by Marià Fortuny; *The Spanish Wedding* represents a period and style of painting for which I have no particular love or affection, but I love this painting. Second: for conceiving of this project and allowing me to help and support her in bringing it to fruition. And third: for doing all of the heavy lifting.

NOTES TO THE USER

The works featured in the exhibition are digital surrogates of public domain works. Within the context of this research project the term ‘digital surrogate’ is used to refer to a digital reproduction of a material object, such as a painting or a sculpture. The reproduction, often a digital photograph, serves as a surrogate for the material object in the cultural institution’s collection. For the purposes of this exhibition, only surrogates of objects in the public domain have been chosen. This means any term of copyright in the material object has expired or never existed in the first place.

WORKS INFORMATION

Various key pieces of information about the digital surrogates featured in the exhibition are presented alongside each surrogate. This information relates to claims regarding the surrogate’s authorship and copyright status, any country-specific copyright exceptions, any institution-specific permissions and licensing information, as well as all relevant metadata.

Any metadata attached to the digital surrogate is displayed in place of the traditional text accompanying the original artwork. In some cases, no metadata is embedded in the digital surrogate; in others, the metadata is so extensive it cannot be included in its entirety. Where relevant, this information is communicated alongside the surrogate.

Measurements in centimetres refer to the dimensions of the material object; measurements in pixels refer to the digital surrogate. The aspect ratio of pixels-per-inch, or ‘px/in’, designates the resolution of the digital surrogate: the higher the resolution, the better the quality of the digital surrogate. Measurements in ‘print px/in’ refer to the resolution of the print version of the digital surrogate, or the material surrogate, as resized to the dimensions of the material object.

LEGAL CONSIDERATIONS

In copyright law, the creator of an original work is referred to as an ‘author’. Accordingly, the cultural institutions are credited as the authors of their digital surrogates. Most institutions claim copyright in the digital surrogate of the public domain work, but not all do. Any restrictions on the use of the surrogate based on the copyright claim of the institution are communicated alongside the surrogate.

Where an institution sets out terms and conditions for the user on its website, the legal effectiveness of these terms and conditions turns upon principles of contract law. Whether binding or not, they typically purport to license the use of the digital surrogate in certain specified ways (or, on rare occasions, not at all). Information about how the institution licenses use – including information about pricing where relevant – is communicated alongside the surrogate.

Most countries provide exceptions within their copyright regime permitting the use of copyright works for certain purposes. These purposes often take the form of personal, noncommercial, and educational uses. In some cases, an institution will claim copyright over a digital surrogate and prohibit certain types of use without express permission, even though existing copyright exceptions may allow for such use. Where relevant, this is communicated alongside the surrogate.

RISK CATEGORIES

Digital surrogates in the catalogue are organized according to potential risk in reuse. For the purposes of this exhibition, risk is categorized into four tiers:

Open/No risk: The digital surrogate may or may not be in copyright; different cultural institutions make different claims in this regard, and whether the digital surrogate is in fact protected by copyright would have to be determined in accordance with the relevant criteria for copyright protection where protection is claimed.¹ But, even if copyright applies the institution has made the digital surrogate available for all types of use, including commercial use. As such, use of the digital surrogate carries no risk.

Low risk: The digital surrogate may or may not be in copyright. But, even if copyright applies the institution's terms and conditions appear to permit use of the digital surrogate for personal, noncommercial, and educational purposes. As such, use of the digital surrogate carries low risk.

Medium risk: The digital surrogate may or may not be in copyright. The institution's terms and conditions indicate limited forms of copying may be permitted, such as downloading for personal use. It is not always clear whether other types of use are permitted. Even if copyright applies and the terms and conditions are binding, a legal exception may permit use for certain personal, noncommercial, and educational purposes.

High risk: The digital surrogate may or may not be in copyright. The institution's terms and conditions indicate copying in any form is generally prohibited without express permission. Within this category, it is unclear whether any relevant legal exception applies.

USER OBLIGATIONS

It is important to note that copyright exceptions are jurisdiction-specific, and the interplay between copyright and contract is not always clear. In some jurisdictions, and depending on the exception, the copyright exception will trump the relevant website terms and conditions; in others, the terms and conditions will prevail. Ultimately, it is for the user to determine whether use and reuse of the digital surrogate complies with institution-specific restrictions as they relate to jurisdiction-specific contract and copyright law. This exhibition catalogue does not constitute legal advice: it simply provides information, discussion, and analysis.

¹ See below for a discussion of 'originality' as a criterion for copyright protection (The Role of Law).



Introduction

Andrea Wallace and Ronan Deazley

In this digital age, it seems it has become inevitable that a cultural institution must maintain an online collection as part of its core function, pursuant to its public mission – or, at least, this is what the public expects. Behind the scenes, however, taking on this task is overwhelmingly and painstakingly complex. Decisions must be made about funding and resource allocation, which material objects to prioritize for digitization, what type of format and how many digital surrogates should be made, how to catalogue and manage the digital surrogates and their metadata, and what format and quality of surrogate to make available online. Many efforts to digitize collections are tempered (perhaps hampered) by copyright considerations, contracts, or donor restrictions, all of which must be interpreted in accordance with the law of the nation in which the cultural institution sits.

It is no wonder that digitization occurs on a case-by-case basis according to each cultural institution's unique needs. Yet, the systemic lack of standardization in digitization efforts and online access has become increasingly apparent. This can be seen by examining the variety of digital cultural heritage currently available on the internet, as well as the various forms of access extended to the digital surrogates created by cultural institutions. More and more, cultural institutions are turning to website terms of use to inform online users of conditions regarding access and reuse of digital surrogates –terms of use that are specific to each cultural institution's needs.

Cultural institutions are subject to the laws of their host nations, which are typically incorporated into (although sometimes disregarded by) the institution's online terms of use. Where the policy is located, what it is titled, and how it is phrased varies from website to website. What impact do these variables have? Do these terms of use have any legal effect? Are online visitors from other nations bound by these terms and conditions? How might that online visitor know?

In examining these issues, this research-led exhibition seeks to shed some light on an area where transparency is often elusive, whether intentionally or not. And what better way to explore them than becoming actively entrenched in them oneself? Consequently, this research project proceeds by taking on both the role of cultural institution and user, in full consideration of the role that law has to play in this domain. *Display At Your Own Risk* is the natural result of this experiment.

On left: eMuseumPlus, Staatliche Museen zu Berlin, 29.933 px/in, 2016. Pieter Bruegel (der Ältere) (Netherlandish, 1525-1569), Zwei angekettete Affen, 1562, Oak wood, 19.9 x 23 cm, Gemäldegalerie, Berlin. Staatliche Museen zu Berlin. This digital surrogate is © Foto: Gemäldegalerie der Staatlichen Museen zu Berlin - Preußischer Kulturbesitz; Fotograf/in: Jörg P. Anders, CC BY-NC-SA.

THE ROLE OF THE CULTURAL INSTITUTION

For several decades and more, cultural institutions have made reproductions of public domain works in their collection, claimed copyright, and licensed those copies for use and reuse. More recently, the internet has made the practice both more efficient and more complicated. Now, instead of contacting an institution to arrange for a physical copy of a material object's surrogate, the public can access the institution's collection online, browse through and request copies of the digital surrogate from any location in the world. Necessarily, this means that in addition to managing physical copies, such as transparencies and slides, cultural institutions must also maintain digital copies of various sizes and formats, keeping stride with changes in technology all the while.

But, at the heart of this process lies the task of determining *what* should be the appropriate institutional policy. This requires an assessment of which pieces from the digital collection to make available online, the relevant or appropriate conditions for those selections, and how to communicate those conditions to the user. Indeed, making digital surrogates available online is one thing; making users aware of how to reuse them (or not) is another. This is especially true considering the ease with which digital surrogates can be downloaded and disseminated online, which can often frustrate the exploitation of the economic rights granted by copyright in these works (if at all).

Cultural institutions approach control and access in various ways. Moreover, even within an institution, practices can vary depending on the resolution, format, and restrictions from one digital surrogate to the next. Some opt to make digital surrogates of public domain works fully available online and expressly disclaim any copyright. Many institutions advocate that since the material object is in the public domain, so too should be its digital surrogate. Others disclaim a copyright, but turn to contract law to restrict or permit certain uses through online terms and conditions.

Most institutions claim copyright over the digital surrogate, whether outright via a copyright notification or within the digital surrogate's metadata. Some promote a robust open access policy of giving everything away for any purpose (including commercial use) but then seem to unintentionally – or perhaps unthinkingly – undermine that policy by digitally watermarking their surrogates with copyright notifications. Others are more forthcoming about their copyright claims, but will frequently permit limited reuse of surrogates for personal, educational, and noncommercial purposes.

In many cases, when copyright is claimed, the institution takes additional steps to reinforce the copyright through the language deployed in the institution's terms and conditions, sometimes expressly prohibiting reuse in any form. In others, the apparent conflict between institutional policies and available legal exceptions can result in genuine confusion as to what, if any, reuse is permitted at all. The release of certain content making use of a Creative Commons licence can add yet another layer of complexity when assessing ownership, attribution, and permitted use.

In short, fully understanding what type of use is permitted and any potential risk involved requires a level of fluency in contract, copyright, and private international law that is foreign to the vast majority of online users.

THE ROLE OF LAW

Despite efforts to enable access, prevailing legal uncertainties inevitably drive a wedge between initial access-driven goals and formal institutional policy as conveyed to (and subsequently interpreted by) the public at large.

There is something inherently counterintuitive about digitizing a work of art that is in the public domain to enable online access to that work, while at the same time claiming copyright in the digital surrogate such that simply viewing the work online may give rise to anxiety about copyright infringement. Do these digital surrogates even qualify for copyright protection? Whether copyright applies will depend on a number of factors such as whether the material object is a painting or a sculpture, what skill and effort went into making the digital surrogate, whether the surrogate exhibits any perceived creativity or originality in itself, the form of technology used, and the jurisdiction in which the cultural institution sits. It is not clear, for example, whether a digital surrogate taken today would satisfy the requirement in European copyright law that the work is ‘the author’s own intellectual creation’.

Famously, in *The Bridgeman Art Library Ltd v Corel Corp* (1999) a New York court held that a photographic reproduction of a painting in the public domain was not an ‘original’ work and so not protected by copyright, a decision that sent shock waves through the GLAM sector at the time. Nearly 20 years later, however, whatever legal significance the *Bridgeman* decision may have had, its practical impact on the policy and claims that cultural institutions continue to make in the US (or, indeed, even in the State of New York) appears to be limited. So, how should institutions and users navigate these issues concerning originality, photography, and copyright? Copyright exists to reward creativity and originality, providing creators with an economic incentive to make new works. But when the true value of the digital surrogate lies in the material object it captures, what is the best way forward?

If these digital surrogates are protected by copyright, they are also subject to any copyright exceptions provided for in the country where protection is claimed. However, these exceptions vary from jurisdiction to jurisdiction, and are typically vulnerable to contractual override. Indeed, cultural institutions often choose to bolster their copyright claims through online terms and conditions, although the intended relationship between these terms of use and prevailing exceptions is not always made explicit. On this point, the way in which terms of use are presented to the public is an important consideration.

Usage policies are usually drafted in dense legalese, rather than in plain language that facilitates a more open approach. In addition, few cultural institutions translate terms into more than one language on their websites, presenting language barriers before their global online audiences. Even when choice of language is not an issue, understanding whether terms and conditions are binding is a difficult task for the user. At first glance, most terms of use appear to bind, creating a contract of adhesion between the user and the cultural institution. However, whether these terms of use are *intended* by the institution to impose contractual relations upon a user visiting the website is not always clear; similarly, whatever the institutional intention, whether a binding contract is *actually* created is something that can only be determined on a case-by-case and jurisdiction-by-jurisdiction basis. Certainly, not all terms of use would hold up in court, and the challenge for the non-expert user in interpreting the scope, impact, and relevance of

an institution's stated terms and conditions should not be underestimated. And, even when the genuine intention underlying these policies is concerned with making collections more accessible and available, this intent is often saturated in language outlining what a user is *prohibited* from doing rather than what is *permitted*.

Ultimately, access-driven policies are a product of systemic tensions and uncertainty in copyright and contract law, and in the interplay between these two bodies of law, and this can result in misconnections between users and cultural institutions. As a consequence, the gap in public understanding of 'access' as defined and extended by institutional policies is having an appreciable and measurable effect on the dissemination and reuse of digital cultural heritage made available online.

THE ROLE OF THE USER

How a user might understand control and access is very different from the approach taken by cultural institutions. Indeed, the user's expectations and experience of access is often at odds with the institution's intention or aspiration. For example, ambitions to make digital collections available to the public are typically mediated through a matrix of institutional policy statements regarding the prevailing legal framework and educational missions. Often this patchwork of policies can be found in a number of places on each institution's website, under various titles and subpages, with the relevant information sometimes scattered among as many as eight or nine different webpages.

Just because a digital surrogate can be viewed online does not, of course, imply a user is permitted to right-click and download it. In some cases, cultural institutions may take substantial steps to prevent users from downloading digital surrogates through the use of certain interfaces, like Adobe Flash, which disable the right-click and download function. Others might provide thumbnails online, or maintain no online collections at all, while hosting a separate image library website that offers images for sale and requires registration for access. By contrast, some institutions create their own unique interface that facilitates high-resolution image downloads, along with citation information and metadata for any and all types of use; in these instances, institutions tend to make great effort to inform a user of what is permitted in relation to that specific digital surrogate being viewed online. In general, though, the majority of cultural institutions deploy wide-sweeping policies that tend to conflate all types of online content and disguise permissions regarding access and reuse with intimidating and restrictive language.

Online audiences expect efficiency and ease when it comes to searching and using images. Consequently, the user may turn to third-party websites like Wikipedia or Flickr Commons to find useable and decent quality digital surrogates when the purpose for which it is being used is flexible or fungible. Many of the cultural institutions featured in this exhibition make large contributions to these sites, yet release a different (and often subpar) digital surrogate through their own website. Google enables image searches based on usage permissions, cutting the host institution or third-party website out of the process entirely. With the potential for such instant gratification at a user's fingertips, few cultural institutions can hope to compete. As a result, *which* host institution is trusted with the care of underlying material object in the digital surrogate becomes less relevant to the user, an effect compounded by the fact that the cultural institution no longer becomes associated as the 'go-to' provider for the digital surrogates in its own collection.

User-oriented metadata represents one way to maintain (or reclaim) relevance. By embedding certain information in the metadata of the digital surrogate, a cultural institution can protect the educational context of the original work, communicate any claim to copyright in its digital surrogate, and ensure the surrogate may be traced back to the institution as the material object's steward. After all, it is in the cultural institution's interest for users to associate the host institution with the material object and its digital surrogate, rather than with a third party. Nevertheless, differences in metadata practices reveal most cultural institutions have failed to take advantage of the benefits of metadata – or at least have only begun to do so in recent years. By examining metadata practices among digital surrogates made by the same cultural institution, one can infer such things as changes in the use of certain technologies for digitization, or shifts in the institution's policies about use and reuse. Indeed, metadata has its own independent relevance to users for academic research in digital cultural heritage and information technologies. When cultural institutions overlook the importance of their metadata, this impacts not only the institution's profile and presence online but potential future research in these fields also.

THE ROLE OF DISPLAY AT YOUR OWN RISK

One of the principal objectives of this exhibition is to make transparent these points of genuine confusion and consider whether they might have a chilling effect on engagement and use. As previously mentioned, this objective is explored from the perspective of both the user and the cultural institution. By initially approaching the issue from a user's perspective, the exhibition examines the various forms of access granted by cultural institutions to digital surrogates of public domain works, making use of these digital surrogates according to those permissions or in accordance with exceptions provided by copyright law.

In the United Kingdom, where this project is based, general exceptions permit the use of work for noncommercial research and private study, for criticism or review, quotation, or reporting current events. The scope of each exception is defined differently, and the limits of the exceptions are not always clear. The principal exception we rely on for this project concerns copyright for the purpose of noncommercial research (Copyright, Designs and Patents Act 1988, s.29). It is our opinion that the use of these digital surrogates for the purposes of the exhibition (as well as for this publication) is permitted according to the research exception. Naturally, extensive acknowledgment and attribution is paid to the original artist and the host cultural institution in accordance with the requirements of the exception.

The pieces curated for the exhibition have been taken from the selection of works highlighted by each institution's website. As most institutions claim copyright over the photographs they take of works in their collection, the institutions themselves have been credited as the author and, in some cases, copyright owner of each piece. Information about how the institution licenses the use of these digital surrogates – including information about pricing where relevant – is also included within the exhibition.

Works held by cultural institutions exist in a unique, singular form, and cultural institutions act as stewards to guarantee their safekeeping. Consequently, access to the material object is restricted both for the purposes of preservation and to ensure it is available for the appreciation of future generations. Yet, digitization enables us to create a

surrogate for the material object in a way that ensures its value may be appreciated by a global audience. Moreover, these digital surrogates can be of such high quality that hairline cracks in the paint on a canvas can be appreciated in extraordinary detail. But, not all digital surrogates are equal in this respect; indeed, their nature and quality can vary dramatically. For this reason we created our own material surrogates of each digital surrogate. That is, each digital surrogate made available on the institution's website was printed to the original dimensions of the underlying material object, creating a new material surrogate for that material object. By printing the digital surrogate to the work's original dimensions the exhibition reveals the often dramatic impact the prism of digitization can have on the public's engagement with the material object in an institution's care.

After the material surrogates were created, they were then digitized, catalogued, and made available online as an open source exhibition. By approaching this process from the cultural institution's perspective, the exhibition exposes to public view the complexity of the innumerable issues confronted by cultural institutions during digitization and digital asset management.

In doing so, this exhibition puts forth its own policies for use, crafted according to the perceived or possible risk in the use of the underlying cultural institution's digital surrogate. The open source file is presented in a way that permits users to curate their own exhibitions as desired. Digital surrogates are organized according to categories of risk informed by any copyright claim over the digital surrogate, the copyright law relevant to the institution's jurisdiction, and the contractual terms and conditions set out the institution's website (see above, 'Notes to the User'). When there is little to no risk in making use of the digital surrogate without express permission, the print files are made available, resized to the public domain work's original dimensions. When risk may be higher, instructions for how to access, resize, and print the digital surrogate are included in place of the print file. Citation information and terms of use are included for each work, as specified by the cultural institution. The exhibition file also contains the research data underpinning this project as an additional resource for users.

The process of digitizing the exhibition – from capture to completion – provided important insights into the same process by which cultural institutions make their collections available online. At each step, issues revealed themselves regarding how to photograph the work, how to create and manage metadata, what formats to make the works available online, how to organize the exhibition file, how to create our own metadata, and how to display online the material surrogates in a way that enabled users to see and appreciate their quality. With each decision we made carefully calibrated choices balancing the approach a cultural institution might take and the expectations for reuse that a user might have.

Throughout the process, the exhibition looked to several cultural institutions' practices for guidance and inspiration. Digital asset management, download information, and reproduction instructions were inspired by the systems designed by the National Gallery of Art in Washington DC and the Davison Art Center at Wesleyan University. Citation formats and text files were informed by the Yale Center for British Art. The structure, format, and layout of the exhibition catalogue was inspired by publications made freely available online by the Getty Institute. The typeface used for all exhibition materials is

Cooper Hewitt, designed by Chester Jenkins and named for the Cooper Hewitt museum. Cooper Hewitt is an open source typeface available for download on the museum's website and was created as part of the museum's open-source programme. Even the decision to release the research data was made in response to cultural institutions' efforts to release their own data and content for researchers. In short, the final form of the exhibition is, in a very real way, a testament to the network of cultural institutions pushing forward the open access initiative every day.

CONCLUSION

It is important to acknowledge that cultural institutions regularly manage risk in their own digitization practices. First, they typically undertake a rigorous risk assessment analysis before determining which works in their collections may be digitized and made available online. Depending on the nature of the content, its copyright status, and the jurisdiction in which the institution sits, the very act of displaying digital surrogates online can incur risk. For example, many jurisdictions have carved out exceptions for heritage institutions for the purposes of preservation activity; but when dealing with digital surrogates of works that are still in copyright only sometimes do exceptions enable making these surrogates available online. Moreover, copyright exceptions do not transcend national borders: they apply on a country-by-country basis. As such, even where an institution can rely upon a national exception to make work available online, this does not necessarily insulate them from an allegation of infringement elsewhere in the world. Second, cultural institutions also perceive risk in releasing their content online, in that the works might become detached from their institutional setting, co-opted by others without permission, used in inappropriate ways, and so on. Claiming copyright over this content offers a strategy for addressing this risk, a mechanism for protecting the integrity of the original work and its informational and institutional context.

In light of this, it is important to recognize and champion the effort and commitment of cultural institutions in making these digital surrogates available online; theirs is a noble undertaking driven by an unswerving commitment to the public interest, and often in spite of the risks inherent in navigating the uncertain demands of national and international copyright law. As such, this exhibition does not put forward any opinion on the state of digital cultural heritage or access practices; rather, it translates the information and content already made available by cultural institutions in a way that hopefully makes the issues addressed by this project more tangible and comprehensible, by applying them in practice and presenting them in a measurable and comparable way.

That the exhibition is titled *Display At Your Own Risk* is meant to be descriptive, rather than provocative. The title signals to users that risk is (and should be) a consideration in use and display, and it calls attention to respecting institutional policies regardless of whether users agree with them. Accordingly, the project attempts to reduce the gap between a user's understanding of the public domain and a cultural institution's approach to making digital surrogates available online. Whether this gap can ever be meaningfully closed will always depend on the matrix of legal and institutional norms and practices discussed above, and – more importantly – on how cultural institutions choose to interpret, translate and explain those norms and practices to their users, both national and international.



Exhibition Methodology

Andrea Wallace

In curating this exhibition, it was important to approach the task from a user's perspective, meaning how an online user might go about finding a digital surrogate and deal with the terms of use articulated on an institution's website. Accordingly, I chose to use only digital surrogates made available by the institution through its own website. This excluded contributions of digital surrogates to online organizations, such as Wikimedia Commons, Europeana, Flickr Commons, and Google Art Project. In theory, when a cultural institution contributes surrogates to organizations like Wikimedia Commons, one would expect the institution also to make that surrogate available on its own website, under the same permissions; but that is not always the case. As such, the decision was made to collect images only from institutional websites in order to facilitate the visualization and comparison of these practices.

SAMPLING

To start, I assembled a list of cultural institutions for investigation. I began by using Art Newspaper's 2014 data on exhibition attendance,¹ which Wikipedia had compiled into a convenient list of the 100 'most visited art museums in the world'.² Because the aim of the project was to gather as wide a sample of practices as possible, I made additions to the list in areas of underrepresentation. Such areas included: institutions known to have online collections and open policies; institutions from the archive and library sectors; institutions of importance from underrepresented jurisdictions; and institutions in jurisdictions known to include certain copyright exceptions. My initial sample included 130 institutions from 37 countries.

Next, I visited each cultural institution's website, starting with the homepage and working my way through the site to find the institution's use policy. I tracked how many steps (that is, clicks of the mouse) it took to locate the relevant policy regarding reuse, what the policy was called, how many languages it was translated into, whether the institution charged for commercial use, whether a copyright was disclaimed, explicit or implied, and so on.

On left: 1916_01_T, Kelvingrove Art Gallery and Museum, 4.838 px/in, 2016. Sir John Lavery (Irish, 1856-1941), A Rally, 1885, Watercolor, 94.5 x 92.1 cm, Kelvingrove Art Gallery and Museum, Glasgow. This digital surrogate is © Glasgow City Council Museums.

¹ The Art Newspaper, 'Visitor Figures 2014: Exhibition & museum attendance survey', available at: http://www.museus.gov.br/wp-content/uploads/2015/04/TheArtNewspaper_Ranking2014.pdf (accessed: 7-October-2015).

² Wikipedia, 'List of most visited art museums in the world', available at: https://en.wikipedia.org/wiki/List_of_most_visited_art_museums_in_the_world (accessed: 7 October 2015).

During this phase, institutions were removed from the sample for various reasons. Some make no digital surrogates available online. In several instances, a language barrier prevented meaningful access to the website. Surprisingly, more than 20 websites had no usage policy whatsoever. Not surprisingly, many expressly prohibited almost all types of use other than viewing the image on the website; some of these institutions were included in the final sample as it seemed important to explore whether any connection existed between more restrictive policies and the quality of digital surrogates made available online. Finally, a number of institutions were omitted as their inclusion was essentially redundant for the purposes of the project: though a policy permitted use, and I would have liked to include them all, I had already selected another institution representing that jurisdiction or risk threshold. I was also constrained by budget considerations, which limited the total number of digital surrogates that could be analyzed and reproduced. The final sample included 100 digital surrogates from 52 institutions in 26 countries.

CURATING

Then came the fun part: picking the images. Initially, selection was bounded by two criteria. First, all of the works had to be in the public domain: this meant, for most relevant jurisdictions, the author must have died before 1946. Second, the original works had to be no wider than 44 inches; this was, essentially, a print capacity limitation, since digital images would be printed to the dimensions of the original artwork.

Next, the curatorial process began. I revisited each website, downloading objectively recognizable digital surrogates from the online collections. Where possible, I selected digital surrogates of works advertised by the institution as a particular highlight of its collection. Where institutions did not include a 'highlights' section on their website, I focused on selecting works that made important contributions to cultural heritage or had special relevance to the institution's national culture.

With each selection, I tried to choose a digital surrogate that represented an artist, gender, subject matter, culture, medium, technique – or even size dimension – not already represented. I was especially sensitive to representing various values of modern culture in the selection process. Due to the history of collecting, how works have been valued and esteemed over time, and considering all selected artists had died before 1946, most of the works that qualified for selection were by white male artists of European and Western descent. Despite this, I made careful selections in an attempt to redress this predominance. Where possible, I chose female artists (or, at least in one case, a female artist as the painting's subject) or iconic themes of certain races and cultures that were overwhelmingly underrepresented among collections.

Issues surrounding copyright and knowledge exchange motivated a few selections, such as surrogates containing scientific content, maps, and similar information sources (although many became unreadable once resized to their original dimensions). Other surrogates were chosen specifically because they are by unknown authors or are objects of cultural property never intended for copyright protection, such as antiquities or embroidery. Indeed, many of the works selected were created before the existence of copyright as we know it today.



Fig. 1

Figure 1

Tate's main website digital surrogate (version accessed: 30 October 2015)

Figure 2

Tate Images commercial website digital surrogate (version accessed: 30 October 2015)

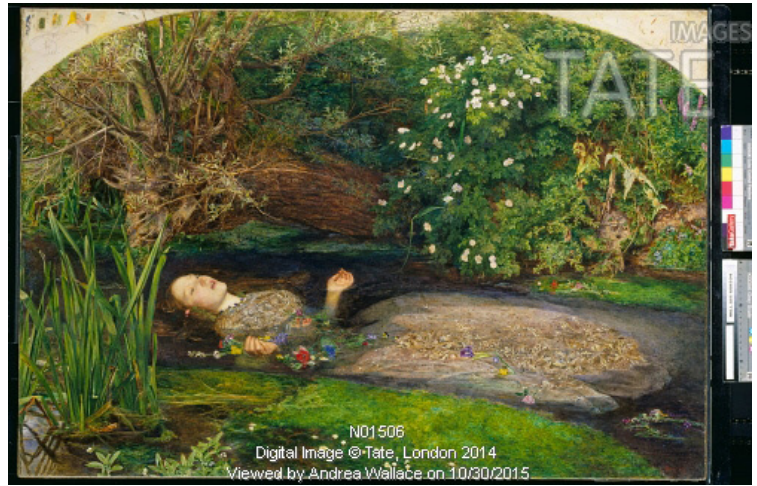


Fig. 2

Keeping in mind that many users might have limited financial or printing capabilities, digital surrogates for smaller material objects were especially attractive. In some cases, more than one digital surrogate from the same institution was selected to see how each asset might print differently, as well as to examine any differences in digital management. In other cases, when more than one appropriate digital surrogate was available, the choice often came down to my own subjective preferences – something true to the process of curation.

I also chose to exclude digital surrogates made available on any institution's commercial image website service, although in two cases I made an exception as the main website expressly directed me to the commercial image website to access the surrogate (the British Library and The National Archives).

Typically, an institution's commercial website hosts one form of digital surrogate while the main website offers another, and often on different terms and conditions. This is well illustrated by Everett Millais's *Ophelia* made available by Tate. This exhibition uses the digital surrogate made available on Tate's main website, which features the painting's frame (Fig. 1); on the commercial website it does not (Fig. 2).³ The 'unframed' surrogate, displaying a clear watermark and copyright notification as well as the viewer's identifying information and date of access, is available only through the commercial website, Tate Images.⁴ As such, the commercial website's copyright policy⁵ applies to the unframed preview image while the main website's policy⁶ applies to the digital surrogate used by this exhibition. In addition, once an order is placed through the commercial service, a higher quality image is delivered to the user. This version is subsequently licensed through and controlled by the terms of a separate purchase agreement. Accordingly, Tate makes use of three different policy systems depending on the website, image, and intended use.

³ Tate, 'Ophelia', available at: <http://www.tate.org.uk/art/artworks/millais-ophelia-n01506> (accessed: 30 October 2015).

⁴ Tate Images, 'Preview: Ophelia', available at: <http://www.tate-images.com/results.asp?image=N01506> (accessed: 30 October 2015).

⁵ Tate Images, 'Copyright policy', available at: <https://www.tate-images.com/CopyrightPolicy.asp> (accessed: 10 October 2015).

⁶ Tate, 'Copyright, permissions and photography', available at: <http://www.tate.org.uk/about/who-we-are/policies-and-procedures/website-terms-use/copyright-and-permissions> (accessed: 10 October 2015).

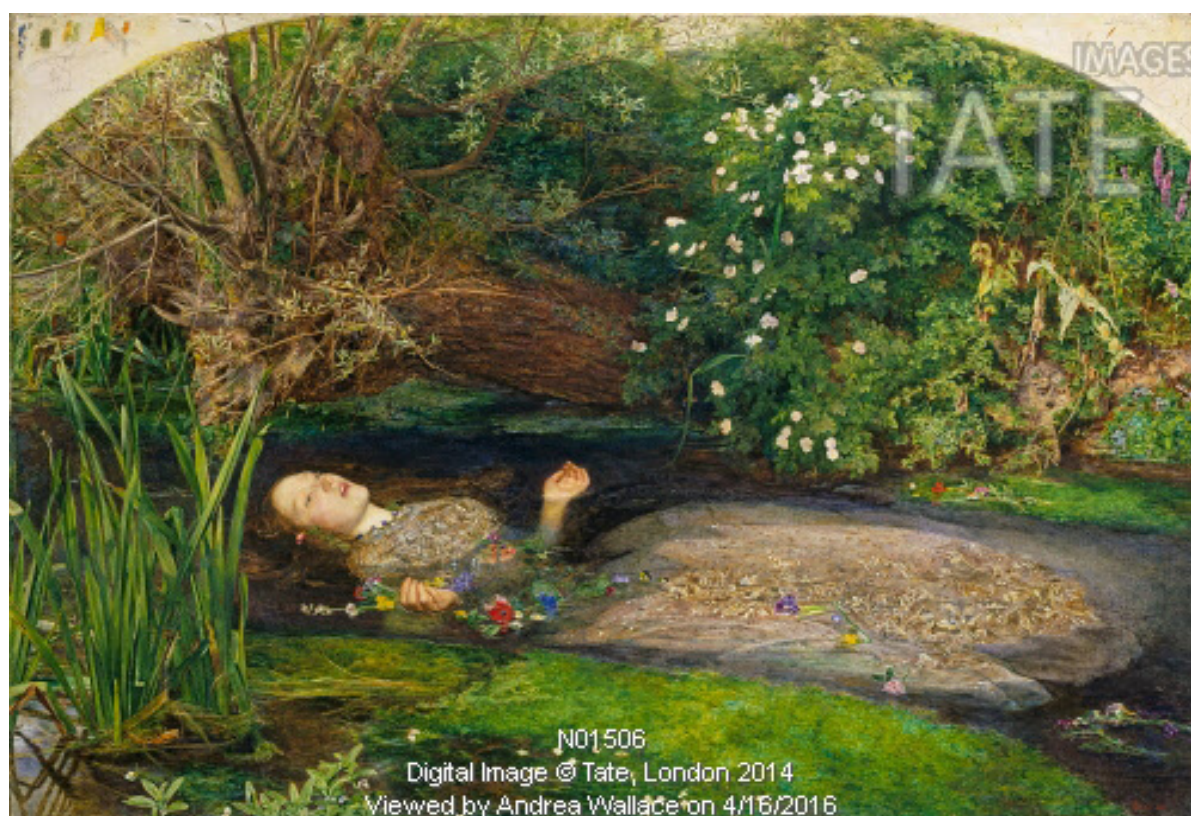


Fig. 3

Figure 3

Tate Images commercial website digital surrogate (version accessed: 16 April 2016), 'Digital Image © Tate, London 2014, N01506'

It is also important to note that commercial websites are often populated with different digital surrogates. On 30 October, when I downloaded the image used in the exhibition, Tate Images provided a preview image true to modern digitization standards: the work is shot on a black background with color and grayscale cards along the side to assist with color balance and correction for reuse (Fig. 2, previous page). More recently, I returned to the commercial website to discover it had updated Ophelia to a new version with the digitization standard information removed (Fig. 3). It seems safe to assume the digitization standard high-resolution image is delivered to the user following a purchase but, given the commercial previews are watermarked, the rationale for compromising on the quality of the preview image is unclear. Whatever the reason, this ever expanding pool of digital Ophelias arguably dilutes the relevance and integrity of the most faithful reproduction of the material object made available by the institution itself.

Finally, I made a point of concluding all research by end of December 2015. Some cultural institutions' policies have since changed. For example, the Art Institute of Chicago has revised its terms of use to more prominently feature and incorporate 'fair use' purposes within its copyright policy. The surrogates in the exhibition were downloaded before this policy was in place, and so are governed by the contract (if the contract binds) that existed between the Art Institute of Chicago (the provider) and myself (the user) at the time of agreement and download. (Downloads taking place subsequent to the policy change are, of course, tethered to the terms of the revised policy.)

In fact, Tate's policy regarding the use of the Millais painting has also changed. When I downloaded the image, Ophelia was available to license, as is visible in the bottom left-hand corner of Figure 4. Upon clicking 'License this image' the user is directed to Ophelia's webpage on Tate Images.

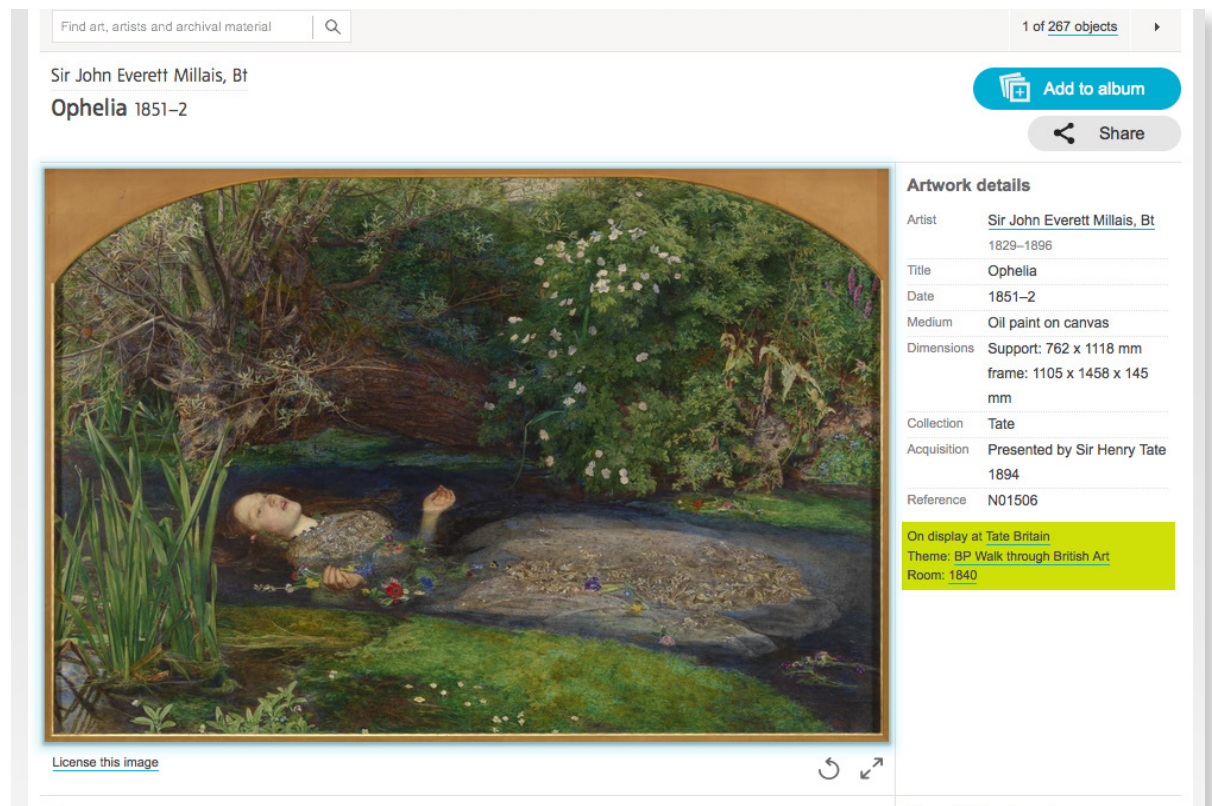


Fig. 4

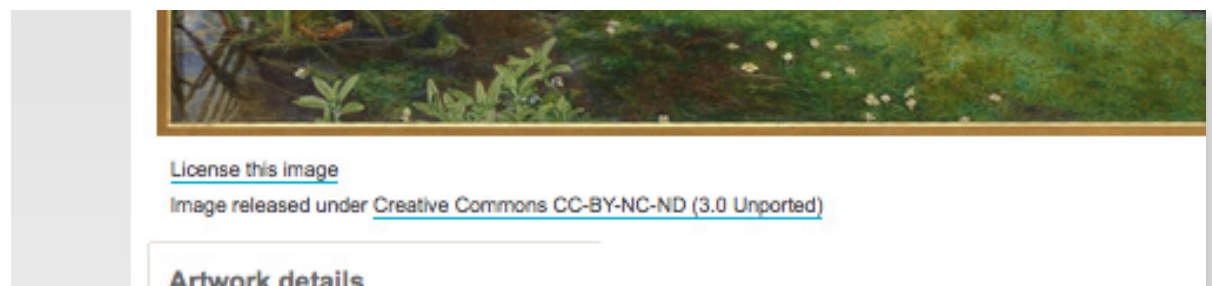


Fig. 5

Figure 4

Tate webpage for 'Ophelia'
(version accessed: 30
October 2015)

Figure 5

Tate webpage for 'Ophelia'
(version accessed: 16 April
2016)

Today, the terms are different. 'License this image' is visible as it was in October but now the website also reads: 'Image released under Creative Commons CC-BY-NC-ND (3.0 Unported)' (Fig. 5). On clicking the hyperlink, the user is directed to the 'Creative Commons licences and Tate' policy.⁷ The unframed version of Ophelia is still available to license through Tate Images, but Tate now expressly permits use of the main website's framed version in accordance with a CC BY-NC-ND licence.

This example illustrates just how quickly institutional policies can change, allowing greater (or more restrictive) access and use of digital collections, and often in ways that are not readily perceptible to the casual user. With this in mind, the decision was made to conduct the curation process within a three-week period in an effort to produce a controlled sample of digital surrogates and respective policies. All digital surrogates featured in the exhibition are bound to the terms of use that existed at the time of download, prior to 1 January 2016. With the nature of digital cultural heritage in a state of constant flux, it seems appropriate that the exhibition itself serves to archive a snapshot of digital surrogates at a particular moment in time.

⁷ Tate, 'Creative Commons licences and Tate', <http://www.tate.org.uk/about/who-we-are/policies-and-procedures/website-terms-use/copyright-and-permissions/creative-commons> (accessed: 10 April 2016).

ANALYZING

ONLINE POLICIES

One insight revealed by the research process is the lack of standardized taxonomies used by cultural institutions to signal where copyright and reuse information is contained on their website. Of the 130 websites reviewed, policies are presented under a variety of names including: Impressum; Copyright; Legal Notice; Rights and Reproduction; Rights of Use; Imprint; Website Policy; Contact; Conditions; FAQ; Disclaimer Copyrights (which ironically included no such disclaim of copyright); Open Access; Copyright and Reproductions; Intellectual Property Rights Policy; Terms of Use; Terms and Conditions; General terms of use for photo material; Request photograph; User Agreement; Image Reproductions and Copyright; Copyright, permissions and photography; Disclaimer; Image Usage Policy; About this site; and Using Images, to name a few.

The most common policy name is simply 'Copyright' used by 16 institutions, followed by 'Terms and Conditions' and 'Terms of use' each used by 8 institutions. Next come 'Rights and Reproduction(s)' and 'Legal notice' each used by 4 institutions, then 'Frequently asked questions' used by 3. Of the remaining policy names, only 'Terms,' 'Disclaimer' and 'Legal information' share a title common to another institution. The remaining policies are each uniquely titled.

The project also considered how a user might recognize and understand whether proprietary interests are being claimed by the institution in the digital surrogate (if at all). In almost every website, the © symbol appears in the footer, but this notification is not always used in reference to specific content within the website. Instead, its primary purpose is to indicate the website itself is protected by copyright. Any restrictions specific to online content are typically contained in policies concerning terms of use, where it is less common for cultural institutions to assert copyright by a clear © notification.

Regardless of what the policy is called, hyperlinks to institutions' policies are most commonly located in the homepage footer. In less obvious cases, it sometimes takes five or more 'clicks' to root out the relevant information. For example, a beautifully drafted open policy, one based on Europeana's recommendations for public domain works,⁸ can be found on the MKG Hamburg website. The policy makes clear that digital reproductions of public domain works are also in the public domain. But it does much more than this. It offers the public a compelling and clearly written explanation of the value of the public domain and the reasons for protecting it, as well as guidance on how to respect the original work and its educational context when sharing knowledge. One problem with the policy is that it is hidden amongst the text of the institution's 'Contact' page, placed just below the contact information for the MKG's legal counsel.⁹ Another is that it omits from Europeana's recommendations the following phrase: **'This usage guide is based on goodwill. It is not a legal contract. We ask that you respect it.'**

Compare this to the way the National Gallery of Denmark (SMK) communicates its policy to the public. On the homepage footer is the hyperlink 'Read about use of images

⁸ Europeana, 'Public Domain Usage Guidelines', available at: <http://www.europeana.eu/portal/rights/public-domain.html> (accessed: 18 October 2015).

⁹ MKG Hamburg, 'Contact', available at: <http://www.mkg-hamburg.de/en/contact.html> (accessed: 18 October 2015).

and text'. Just one click brings the user to a policy that is also based on Europeana's guidelines, but one that positively invites the user to enjoy and play with the museum's digital collection: 'Images in the Public Domain are like tools in a toolbox – you can use them for all manners of purposes. Feel free to let your imagination run wild.'¹⁰ Moreover, SMK's terms and conditions expressly inform the user of its non-binding status: '*The guidelines are based on goodwill. They are not legally binding, but we urge you to please respect them.*' The policy, however, employs stronger language than that used by Europeana, urging, rather than asking, the public to respect the guidelines. It is also divided into two sub-policies, one regarding 'Use of Images and Text' and the other for 'Free Download of Artworks.' On clicking the hyperlink in the homepage footer, the user is directed to the 'Use of Images and Text' policy; yet, the information highlighted by this paragraph can only be found in the 'Free Download of Artworks' policy.

Some policies are not only tucked away in hidden corners of an institution's website, but are also framed in very counterintuitive ways. For instance, one would think, when visiting the Art Institute of Chicago's website, that the relevant policy could be found by clicking 'Terms' in the footer,¹¹ which takes the user to the 'Copyright' page,¹² but this provides no more than the following:

© 2016 The Art Institute of Chicago, 111 South Michigan Avenue, Chicago, Illinois, 60603-6404

Terms and Conditions | All text and images on this site are protected by U.S. and international copyright laws. Unauthorized use is prohibited.

The actual policy regarding use and reuse of digital surrogates is accessible only by clicking on the 'Terms and Conditions' hyperlink and scrolling halfway down the page.¹³

An even more confusing situation exists on the National Library of Wales website.¹⁴ The Library expressly disclaims copyright in digital reproductions of public domain works, stating that '[a]ccess to reproductions shall be subject to the same rights as would apply to the work in its original format.' Located in the website footer is a link to the Library's 'Copyright' page, which informs the public of the Library's own copyright obligations, its use of Creative Commons licences, and who to contact for high resolution images.¹⁵ However, the copyright disclaimer is not housed on the 'Copyright' page but within the Library's 'Intellectual Property Rights Policy', under the heading '4.5 Digital collections'.¹⁶ And even if the policy is located, when browsing through the collections online the user is confronted with copyright notifications like '© LIGC / NLW 2010' beneath each digital

¹⁰ SMK, 'Use of images and text: Free download of artworks', available at: <http://www.smk.dk/en/use-of-images-and-text/free-download-of-artworks/> (accessed: 12 October 2015).

¹¹ Art Institute of Chicago, available at: <http://www.artic.edu/> (accessed: 30 October 2015).

¹² Art Institute of Chicago, 'Copyright', available at: <http://www.artic.edu/copyright> (accessed: 30 October 2015).

¹³ Art Institute of Chicago, 'Terms and Conditions', available at: <http://www.artic.edu/node/1727> (accessed: 30 October 2015).

¹⁴ The National Library of Wales, available at: <https://www.llgc.org.uk/index.php?id=1> (accessed: 12 October 2015).

¹⁵ The National Library of Wales, 'Copyright', available at: <https://www.llgc.org.uk/about-nlw/copyright/> (accessed: 20 October 2015).

¹⁶ The National Library of Wales, 'Intellectual Property Rights Policy', available at: <https://www.llgc.org.uk/about-nlw/copyright/intellectual-property-rights-policy/> (accessed: 20 October 2015).

surrogate, including the one selected for this exhibition.¹⁷ In other words, while the Library disclaims copyright in the surrogates it creates, the user is nevertheless routinely presented with information and statements that appear to undermine the institution's formal policy.

Some terms and conditions are not located on the institution's website at all, such as the National Gallery of Ireland's copyright policy. To find that policy, a user must visit 'About Us' and then 'Reports, Policies & Procurement'¹⁸ to identify the relevant link to 'Website Terms of Use'. But even then, the terms are not included on the general website: clicking the link activates a direct download of the relevant terms and conditions to the user's computer. The National Museum of Art, Architecture and Design in Oslo, and the Rijksmuseum in Amsterdam, also follow this practice instead of hosting their policies online for all to read.

The Rijksmuseum's system, however, is the most tricky of the three. To download an image of a public domain work directly from the Rijksmuseum website, a user must first create a Rijksstudio account. No general terms of use are presented to the user during the registration process. Once registered, medium-resolution images can be downloaded directly through the Rijksstudio. For high-resolution images, like the one selected for this exhibition, the user must submit a Photoservice request.¹⁹ The image is then delivered via email and includes a hyperlink to 'Terms of Use'. This webpage is also accessible via the 'Organization'²⁰ webpage, on which a hyperlink to 'Terms' can be found under the 'About' heading. On the 'Terms' page, under the subheading 'Terms and conditions website',²¹ is a hyperlink to 'Terms and conditions governing use of the websites'. Clicking this hyperlink activates the direct download of terms governing all Rijksmuseum websites. (Phew.)

That a user can access and browse through a website without necessarily encountering a formal online policy raises the obvious question of whether these policies are enforceable. Often, general terms of use will claim to bind the user outright: that is, by merely by accessing the website the user is deemed to have consented to the terms. Whether such terms will bind the user is a matter of debate, and much will depend on the relevant law of the jurisdiction concerned. But what about when the copyright terms in question are not technically on the website? Do they apply at all? Or, even where terms are set out on the website, an institution might provide more specific instructions and guidance in a supplementary document via a direct download system, the details of which may depart from the terms as expressed on the website itself. Both the British Library and The National Archives evidence this practice. From the user's perspective, which set of terms are the appropriate terms to follow?

17 The National Library of Wales, 'The Battles of Alexander the Great', available at: <https://www.llgc.org.uk/digitalmirror/pei/PEI00002/27/tudalen.html?lng=en> (accessed: 16 October 2015).

18 National Gallery of Ireland, 'Reports, Policies & Procurement', http://www.nationalgallery.ie/en/aboutus/Reports_and_Policies.aspx (accessed: 8 October 2015).

19 Rijksmuseum, Amsterdam, 'Photoservice', available at: <https://www.rijksmuseum.nl/en/photoservice> (accessed: 22 October 2015).

20 Rijksmuseum, Amsterdam, 'Organization', <https://www.rijksmuseum.nl/en/organisation/> (accessed: 22 October 2015).

21 Rijksmuseum, Amsterdam, 'Terms and conditions Rijksmuseum', available at: <https://www.rijksmuseum.nl/en/organisation/terms-and-conditions> (accessed: 22 October 2015).



Fig. 7



Fig. 6

Figure 6

'Crowd looking at the Mona Lisa at the Louvre,' by Victor Grigas, CC BY-SA 4.0, available at: <https://commons.wikimedia.org/w/index.php?curid=40250423>

Figure 7

'JFK, Marie-Madeleine Lioux, André Malraux, Jackie, L.B. Johnson, unveiling Mona Lisa at Washington, D.C., National Gallery of Art, 8 Jan 1963,' by Robert L. Knudsen - This media is available in the holdings of the National Archives and Records Administration, cataloged under the ARC Identifier (National Archives Identifier) 194219. This tag does not indicate the copyright status of the attached work. A normal copyright tag is still required. Public Domain, available at: <https://commons.wikimedia.org/w/index.php?curid=3267337>

This exploration of differences in taxonomies, the choice of language or © notification, and where relevant policies are located, suggests that cultural institutions aren't exactly making it easy for the typical online user – a member of the general public who might be based anywhere in the world – to find, understand, and respect institutional policies regarding use and reuse. If the point is to claim copyright in online content (or protect the copyright of third parties in online content), shouldn't these policies be more obvious? Even for institutions with more open policies, or who disclaim copyright in digital surrogates entirely, the impulse consistently seems to be to hide the carrot.

MATERIAL SURROGATES

Examining the printed material surrogates was fascinating. Some of the digital surrogates print to such a high quality they could be used for serious academic study, especially when considering how access to the material object is restricted. Many included information impossible to appreciate when visiting the material object in situ, as most high-quality reproductions are made with the material object removed from its frame and under much better lighting than provided in a gallery. In these cases, cracks in the pigment and brush strokes around the edge of the panel are depicted in such detail that the artist's technique can be examined in a way that permits rigorous research.

Interacting with the material surrogates was a key aspect of this project and the exhibition. On the looming walls of the Louvre's massive galleries, the Mona Lisa looks quite small, inciting surprise from on-lookers that such a modest painting can enjoy such enormous reputation and attention. At best, visitors can get within six feet or so of the iconic portrait and are lucky to snap a photo without catching someone else's camera, phone, or tablet in the frame (Fig. 6). Yet, viewing the material surrogate of the Mona Lisa incited similar surprise, this time at how big the painting seemed in the context of a more personal space. Indeed, the photographer and I spent a good deal of time making sure our material surrogate had been printed to the correct dimensions of the original object (in the end, we turned to Google images: a photo of the painting being admired by John F. Kennedy provided the necessary size context and reassurance, see Fig. 7). The roles cultural institutions play in the preservation and appreciation of cultural heritage is inestimable, as is visiting the original object in the galleries, hung among its carefully

curated companions. Still, reproducing the material surrogate to scale allowed a form of personal interaction with the work in a way that could never be achieved with the material object within a museum setting. These interactions with the prints failed to satiate any interest I had in viewing the original; in fact, they intensified my desire exponentially, and especially in relation to those material surrogates of exceptional quality.

Photographing these high-quality material surrogates was equally interesting. In viewing the exhibition photograph of the material surrogate, it becomes hard to tell that the underlying object is merely a print, rather than the original work itself. By contrast, when the digital surrogate took the form of a low resolution or thumbnail image, once printed to original dimensions of the material object, the images created were often so pixelated that they become intriguing objects in their own right. But, in these cases, moral rights issues also come to the fore, both in regards to the cultural institution as the author of the digital surrogate and the original artist of the underlying work. Is the resizing of the digital surrogate so transformative that it violates the moral right of integrity enjoyed by the cultural institution (if any moral right exists)? Alternatively, does the material surrogate or even the cultural institution's low quality digital surrogate violate the artist's moral right to the integrity of the material object (again, if any moral right exists)?

METADATA

Metadata: where do I begin?

First, let's get technical. Different metadata can be created at different stages of digital asset creation and management. During the digitization of the work, digital cameras embed technical metadata called 'Exif' data into the image files (this is short for exchangeable image file format). Some Exif data is automatically generated by the camera whereas some can be preset, or overridden, by the camera operator. Once a work is digitized, additional metadata can be attached during image manipulation. Adobe Systems Inc., provides popular image editing and management software like Photoshop and Bridge, and uses an ISO data standard (originally created by Adobe) called 'XMP' (short for extensible metadata platform). Adobe's XMP labelling technology allows you to track changes and embed metadata during content creation and the editing process. Adobe platforms also enable manual metadata management. Finally, 'IPTC' metadata (short for the schema created by the International Press and Telecommunications Council) includes Core and Extension metadata and provides fields that allow users to add descriptive data such as location, dates, names, and other identifiers. According to the IPTC, the IPTC Photo Metadata standard 'is the most widely used standard because of its universal acceptance among photographers, distributors, news organizations, archivists, and developers.'²² Among the cultural institutions featured in the exhibition, I found this not to be the case.

For the purposes of this project, our Data Specialist²³ developed a program to extract each of these datasets from the digital surrogates. Of the 100 digital surrogates analyzed, 37 digital surrogates contain no metadata at all. Of the remaining 63 that did, the most commonly used metadata is Exif, with such data embedded in 52 digital sur-

²² IPTC Photo Metadata, available at: <https://iptc.org/standards/photo-metadata/> (accessed: 12 April 2016).

²³ I can take no credit for any of the programming. For that I must thank Jesus Rodriguez Perez, the Data Specialist in our research group, CREATe, at the University of Glasgow.

rogates; 49 surrogates contain information in the XMP fields, but only 41 contain IPTC metadata. Some of the information is repetitive, as 35 of the 63 digital surrogates make use of all three types of metadata. Yet, much of that information is basic or minimal. Surprisingly, 65 of the 100 digital surrogates contain no rights information in the metadata. This means only 35 digital surrogates contain information communicating whether any restrictions (or not) apply to its use. Even then, many rights statements in the metadata are not consistent with what the cultural institution appears to permit via its website terms.

At times, I felt that reviewing the metadata threatened to unravel work that had already been carried out on the project, or my understanding of the relationship between institution and digital surrogate. That is, I found myself growing desperate over how to reconcile an institution's already confusing online policy with the information contained in the metadata. For example, the digital surrogate of Audubon's Birds of America made available by the British Library is marked as public domain on its webpage, which states 'Usage Terms: Public Domain' and includes a link to the Creative Commons Public Domain Mark 1.0.²⁴ Not so in the metadata. There a user will find '© The British Library Board' in all three forms of metadata (Exif.Image.Copyright, Xmp.dc.rights, and Iptc.Application2.Copyright). Could this be a mistake? How would a user know?

During our own digitization process, we used two different photography methods to capture the material surrogates. For the smaller works, the photographer physically held the camera so he could get up close and personal with the prints. For the larger works, the camera was mounted to and suspended from a device connected to a computer. The difference between these two techniques is apparent in the metadata. The photographer was able to manually set the metadata on the camera, which he had specified to not include copyright information in the photograph. Once connected to the computer, however, the digitization software overrode the camera settings. This generated one batch of images containing no copyright statement in the original metadata and another batch attributing copyright to the University of Glasgow. We were able to fix this when creating and managing our own metadata for the photography, but it illustrates how easily and unintentionally these issues can be complicated by technology, as well as how easy it can be for mistakes to go unnoticed. (And to be clear: we do not consider that the photographs taken for the purposes of this exhibition are protected by copyright.)

The British Library isn't the only cultural institution with information embedded in the digital surrogate that appears to conflict with its online policy. The Los Angeles County Museum of Art (LACMA) and the Walters Art Museum both maintain policies that public domain artworks generate public domain digital surrogates.²⁵ On LACMA's website, high resolution digital surrogates are made available online and marked as 'Public Domain'. However, included in the metadata of two of the three digital surrogates featured in the exhibition is the following text: 'RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.' This information is contained in both the lines for 'Xmp.dc.rights' and 'Iptc.Application2.Copyright'. The third

²⁴ British Library, 'Audubon's Birds of America', available at: <http://www.bl.uk/collection-items/the-birds-of-america> (accessed: 28 October 2015).

²⁵ Los Angeles County Museum of Art, 'Terms and Conditions', available at: <http://www.lacma.org/about/contact-us/terms-use> (accessed: 14 October 2015); Walters Art Museum, 'Rights and Reproductions', available at: <https://www.thewalters.org/rights-reproductions.aspx> (accessed: 14 October 2015).

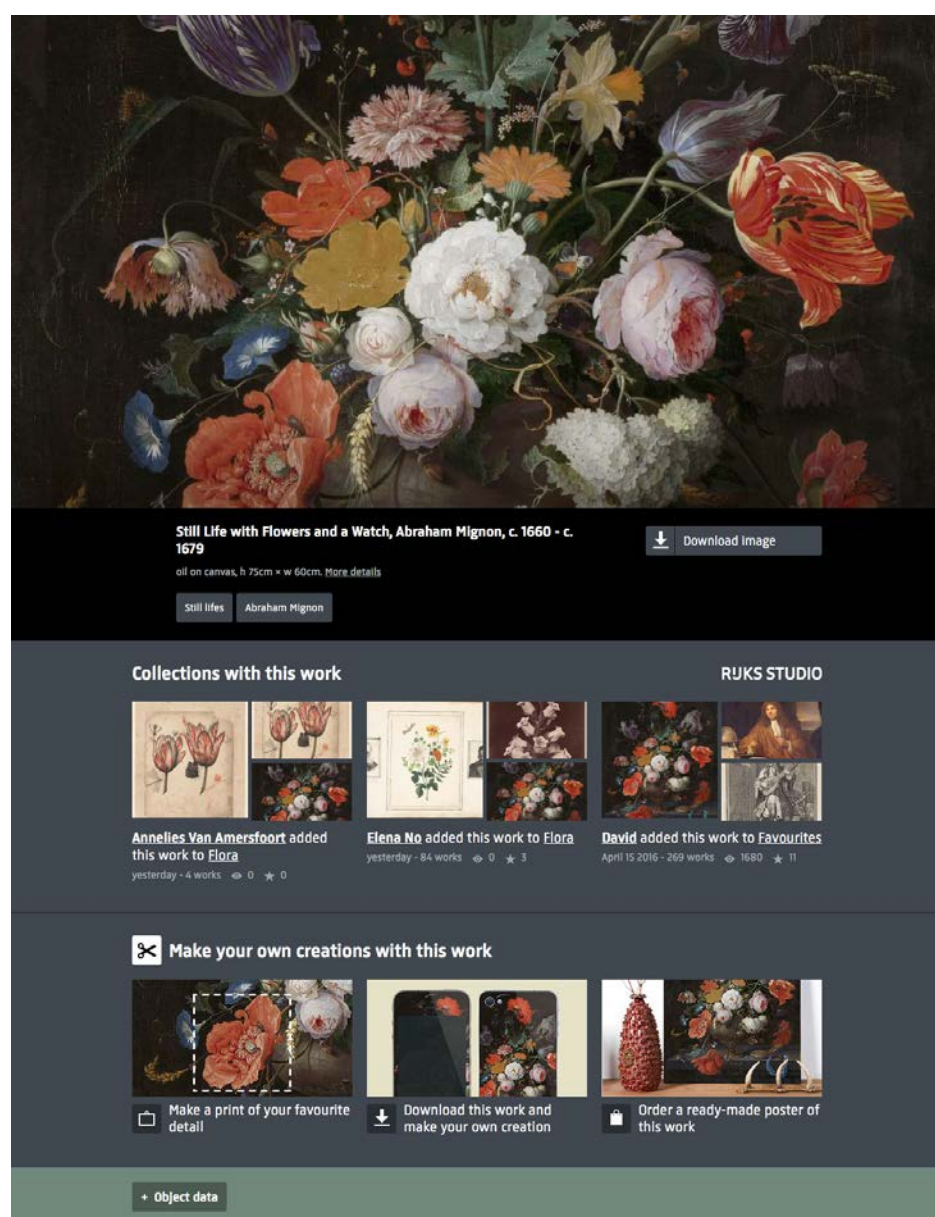


Fig. 8

Figure 8

Rijksmuseum, 'Still Life with Flowers and a Watch, Abraham Mignon: Object data' (version accessed: 16 April 2016)

online collection contained a copyright statement in the metadata and indicated as such in Photoshop. In the metadata of the 2010 digital surrogate featured in this exhibition, the 'Xmp.dc.rights' line reads: 'Rijksmuseum Amsterdam PO BOX 74888 1070 DN Amsterdam the Netherlands +31 206747000'. One might read this as information about the institution and nothing more, rather than evidencing a claim to copyright; yet the 'Iptc.Application2' line suggests otherwise: 'Copyright Rijksmuseum Amsterdam PO BOX 74888 1070 DN Amsterdam the Netherlands +31 206747000'. In addition, upon opening every Rijksmuseum digital surrogate in Photoshop, the © symbol is clearly displayed in the image editing frame.

The mere presence of the copyright notification is confounding. Turning to the Rijksmuseum's online terms and conditions there is nothing to indicate that the museum deems digital surrogates of public domain works also to be in the public domain.²⁶ Next, I turned my attention to the individual webpages for each digital surrogate. At the very bottom of every page is a discreet green button for '+ Object data' (Fig. 8).

²⁶ The relevant portion of the policy reads: '7. Non-public domain images and texts on this website are protected by copyright, with the Rijksmuseum being the copyright owner of the photographic material and where applicable of the images themselves.' To access this policy, visit 'Terms and conditions Rijksmuseum', available at: <https://www.rijksmuseum.nl/en/organisation/terms-and-conditions> (accessed: 18 October 2015), and click on 'Terms and conditions governing the use of the websites' (accessed: 18 October 2015) to download the policy.

digital surrogate contains the same XMP and IPTC data in addition to the 'Exif.Image.Copyright' line. Similarly, in the Walters digital surrogate, the 'Xmp.dc.rightsHolder' line reads: 'Walters Art Museum (Baltimore/Maryland/USA)'. Nowhere does the metadata inform the user that the surrogates are in the public domain or that permission for reuse is not required.

Another surprising meta-discovery was neatly revealed by the digital surrogates released by the Rijksmuseum. The Rijksmuseum has led the way within its sector in digitizing its collection in high resolution and making it available online for any purpose, including commercial use. Indeed, the Rijksstudio runs an annual competition awarding the best reuses of its digital surrogates with substantial cash awards. This is why I was surprised to find a copyright statement in their metadata, and not only in the digital surrogates selected for this exhibition. Whether a jpeg or tiff, every image examined from the Rijksmuseum's

- Object data		
Identification	Title(s)	Still Life with Flowers and a Watch
	Object type	painting
	Object number	SK-A-268
	Inscriptions / marks	signature: 'A. Mignon. f.'
Creation	Description	Stilleven met bloemen en een horloge. Op een stenen plint ligt een gouden horloge met blauw lint naast een boeket bloemen (tulpen, rozen, papavers, anemonen, narcissen en irissen) in een vaas. Tussen de bloemen en op de plint bevinden zich slakken, rupsen, een hommelt en een libel.
	Artist	painter: Abraham Mignon
	Dating	c. 1660 - c. 1679
	Material and Technique	
Material and Technique	Physical features	oil on canvas
	Material	canvas, oil, paint (paint)
	Measurements	h 75 cm - w 60 cm
Subject	What	<ul style="list-style-type: none">flowers in a vasewatch
Acquisition and rights	Credit line	Dupper Wzn. Bequest, Dordrecht
	Acquisition	1870
	Copyright	Public domain
Documentation		<ul style="list-style-type: none">Still lifes: techniques and style: an examination of paintings from the Rijksmuseum, Astrid van den Berg, Arie Wallert, p. 81 - 84,afb. 81, cat.nr. 11Linda Eversteijn, 'Schoone horloges': Nederlandse horloges in de Gouden Eeuw, 2014 (lente), Watching 100% horloges
Persistent URL	To refer to this object please use the following persistent URL: http://hdl.handle.net/10936/1090001/COLLECT.6746	
Questions?	Do you have a remark or extra information on this object? Please let us know!	

Fig. 9

Figure 9

Rijksmuseum, 'Still Life with Flowers and a Watch, Abraham Mignon: Object data' (version accessed: 16 April 2016)

Figure 10

SK-A-268-01, Rijksmuseum, 216.543 px/in, 2016. Abraham Mignon (German, 1640-1679), Still Life with Flowers and a Watch, c. 1660 - c. 1679, Oil on canvas, 75 x 60 cm, Rijksmuseum, Amsterdam. Rijksmuseum, Amsterdam. This digital surrogate is © Rijksmuseum, Amsterdam.



Fig. 10

Clicking on that button reveals a wealth of information regarding the object’s identification within the institution, the original creator and his techniques, as well as acquisition and rights for the work (Fig. 9).

The line for ‘Acquisition and rights’ reads:

Credit line	Dupper Wzn Bequest, Dordrecht
Acquisition	1870
Copyright	Public domain

In this instance, we can see that Abraham Mignon’s painting was acquired in 1870 through the Dupper Wzn Bequest. The ‘object’ to which this information relates is the material object, Mignon’s Still Life with Flowers and a Watch (Fig. 10). In many respects, that is what one would expect. But, when clicking the ‘Public domain’ hyperlink, the user is taken to the museum’s Creative Commons CC0 Public Domain Dedication page, which reads:

The person who associated a work with this deed has **dedicated** the work to the public domain by waiving all of his or her rights to the work worldwide under copyright law, including all related and neighboring rights, to the extent allowed by law.

You can copy, modify, distribute and perform the work, even for commercial purposes, all without asking permission.²⁷

For many, it will be obvious that Mignon didn’t ‘dedicate’ this work to the public domain in the sense referred to on the museum’s website; for one thing, the work was painted at a time when copyright, as we know it, did not exist. This statement can only apply to the digital surrogate. What is problematic, however, is that information about the material object and the digital surrogate is being conflated in a way that may cause confusion

27 CC0 1.0 Universal (CC0 1.0) Public Domain Dedication, available at: <http://creativecommons.org/public-domain/zero/1.0/deed.en> (accessed: 25 October 2015).

for the user. Moreover, nowhere does the Rijksmuseum clearly and prominently state its policy on the status and reuse of digital surrogates on its own website. While the museum has in many ways set a global standard for open digital heritage, it appears to broadcast and champion that standard everywhere except on 'www.rijksmuseum.nl.' Is this simply about an institutional disconnect or gap between policy and information management practices, or something more?

Copyright information is not the only metadata pertinent to this research, nor are these practices indicative of the metadata in the rest of the sample. SMK's metadata for one of its surrogates is short and sweet including information about the original author, the title of the work and date of creation, who made the digital surrogate, a link to the rights statement, information about the host institution, and a 'Public Domain (CCO)' mark. Missing from the metadata is the date the digital surrogate was made. In fact, several institutions include no such date within their metadata. When the institution disclaims copyright in the digital surrogate, embedding the date of creation might seem unnecessary. After all, no assessment must be made of whether the copyright has expired and the digital surrogate has passed into the public domain (that is, assuming the digital surrogates are still being used seventy or more years from now). Yet, recording the date of creation is important for other reasons; for example, it may be useful in future studies on the development of digital cultural heritage and information technologies.

Indeed, technology influences metadata. Depending on the interface used by the institution, the digital surrogate's download may be facilitated in different ways: it might be uploaded to the website with the metadata attached; it could be hosted through a digital asset management system that embeds the most current metadata upon download or, alternatively, wipes such metadata and provides none at all; the surrogate may be stored on and delivered by a cloud service, such as DropBox; or it might be provided via email on request. Each of the decisions about how to create, store, manage, and make available digital surrogates online can impact the format, type, and quality of metadata attached, or not attached.

To be fair, managing metadata is tedious and updating it can be difficult. Perhaps that is why certain institutions choose to refer users to their online terms and conditions in place of embedding static rights statements within their metadata, as does The J. Paul Getty Museum and the Yale Center for British Art. Should the terms of use change, such information can be managed and updated on the website, applying to each future use of digital surrogates already released online.

As access demands to digital cultural heritage become increasingly global, institutional metadata policies must similarly adapt. Responding to the needs of an international audience might require metadata translation, depending on the language in which the metadata was originally drafted. Overwhelmingly, the most common language in metadata is English, which could be due to the influence of the organizations responsible for creating the technology, schema, and management software. Still, some digital surrogates contained bits of text in the language of the host institution, such as in Dutch or Norwegian.

Many digital surrogates contain metadata that is both rich and intriguing. For example, in the metadata for the 2008 digital surrogate, the Yale Center for British Art has included information about the process by which the digital surrogate was made: a digital scan of

a transparency, which itself was made in 1997. Some information embedded by institutions could pass for abstract poetry:

people by name,mad hatter,period by decade or era,victorian era,party,tea,discipline,humanities,classics,literature,art genres,fiction,food,drink,celebration,entertainment event,organism,animal, animal categories,mammal,people,child,female,girl,style and period, Date by century of work or scene,19th century,social gathering,adventure, rodent,children's literature,dormouse,alice, alice in wonderland,children's drawings, teas,foods,drinks, celebrating,celebrations,parties,animals,children,kid,kids,females, personalities,famous people,named people,infant, infants,beverage,beverages,rodents,victorian,organisms, childrens literature,childrens stories,children's stories,children's books, children's story,childrens books,childrens book,children's pictures,childrens pictures,childrens picture,childrens drawing, people by name, mad hatter,period by decade or era,victorian era,party,tea, discipline,humanities,classics,literature,art genres,fiction,food,drink, celebration,entertainment event,organism, animal,animal categories,mammal,people,child,female,girl,style and period,Date by century of work or scene,19th century, social gathering,adventure,rodent,children's literature, dormouse,alice,alice in wonderland,children's drawings, teas,foods,drinks,celebrating,celebrations, parties,animals,children,kid,kids,females,personalities,famous people, named people,infant,infants,beverage, beverages,rodents,victorian,organisms,childrens literature,childrens stories,children's stories,children's books,children's story,childrens books,childrens book,children's pictures,childrens pictures,childrens picture, childrens drawing, people by name,mad hatter,period by decade or era,victorian era,party,tea,discipline,humanities,classics,literature,art genres,fiction, food,drink,event,celebration, entertainment event,organism,animal,animal categories,mammal,people,child,female,girl,style and period,Date by century of work or scene,19th century,social gathering,adventure,rodent,children's literature,dormouse,alice,alice in wonderland,children's drawings,Anniversary, Anniversary 2015, teas,foods,drinks,celebrating,celebrations,parties,animals,children,kid,kids,females,personalities,famous people,named people,infant,infants,beverage,beverages,rodents,victorian,organisms,childrens literature,childrens stories,children's stories,events,children's books,children's story,childrens books,childrens book,children's pictures,childrens pictures,childrens picture,childrens drawing²⁸

Among other examples are pages and pages of groups of numbers, empty color profiles, technical jargon, byte counts, and extensive editing histories, the value of which may elude this researcher, yet be perfectly clear to a researcher set to a different task.

28 Xmp.dc.subject 'poetry' by the British Library; see the metadata for digital surrogate #68.

File name	Cultural Institution	EXIF	XMP	IPTC	All 3	None	Creation	EXIF rights Information	XMP rights Information	IPTC rights Information	None
audubon-birdsof-america-gyrfalconpage73	British Library	1	1	1	1	0	2009	Exif.Image.Copyright © The British Library Board	Xmp.dc.rights lang="x-default" © The British Library Board	Iptc.Application2.Copyright © The British Library Board	
DAC_1944-D1-289-2_001_OA	Davison Art Center, Wesleyan University	1	1	1	1	0	2013	Exif.Image.Copyright DAC Open Access Image from the Davison Art Center, Wesleyan University. No known copyright restrictions. See http://www.wesleyan.edu/dac/openaccess for details.	Xmp.dc.rights lang="x-default" DAC Open Access Image from the Davison Art Center, Wesleyan University. No known copyright restrictions. See http://www.wesleyan.edu/dac/openaccess for details.	Iptc.Application2.Copyright DAC Open Access Image from the Davison Art Center, Wesleyan University. No known copyright restrictions. See http://www.wesleyan.edu/dac/openaccess for details.	
0_download	Indianapolis Museum of Art	1	1	1	1	0	2004				1
0_download	Indianapolis Museum of Art	1	1	0	0	0	2004				1
0_download	Indianapolis Museum of Art	1	1	1	1	0	2009				1
0_download	Indianapolis Museum of Art	1	1	1	1	0	2014				1
00066101	The J. Paul Getty Museum	1	1	0	0	0	x		Xmp.xmpRights.UsageTerms lang="x-default" http://www.getty.edu/legal/image_request/		
00084801	The J. Paul Getty Museum	1	1	0	0	0	2015		Xmp.xmpRights.UsageTerms lang="x-default" http://www.getty.edu/legal/image_request/		1
25741601	The J. Paul Getty Museum	1	1	0	0	0	x		Xmp.xmpRights.UsageTerms lang="x-default" http://www.getty.edu/legal/image_request/		
11225201	The J. Paul Getty Museum	1	1	0	0	0	x		Xmp.xmpRights.UsageTerms lang="x-default" http://www.getty.edu/legal/image_request/		
10088u	Library of Congress	1	1	0	0	0	2005				1
42713u	Library of Congress	1	0	0	0	0	2014	Exif.Image.Copyright (blank field)			1
ma-34009488	Los Angeles County Museum of Art	1	1	1	1	0	2009		Xmp.dc.rights lang="x-default" RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	Iptc.Application2.Copyright RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	
ma-34792881	Los Angeles County Museum of Art	1	1	1	1	0	2007		Xmp.dc.rights lang="x-default" RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	Iptc.Application2.Copyright RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	
ma-31948123	Los Angeles County Museum of Art	1	1	1	1	0	2007	Exif.Image.Copyright RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	Xmp.dc.rights lang="x-default" RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	Iptc.Application2.Copyright RESTRICTED: Contact the Rights and Reproductions Department at The Los Angeles County Museum of Art.	
EP2009.302-1	Museum für Kunst und Gewerbe Hamburg	0	0	0	0	1	x		Xmp.xmpRights.UsageTerms lang="x-default" No reproduction without prior permission. All rights are reserved except those specifically granted.		1

Fig. 14

Figure 14
'Metadata Rights Information' spreadsheet, available in the 'Research Files' folder of the open source exhibition file

Why is this all important? Because a user might download a digital surrogate and post it on a website, incorporate it into some new cultural good, or resize it to the dimensions of the original work and include it in the file of an open source exhibition. Once that digital surrogate is divorced from the context of its webpage and the relevant use policy, that context might be lost forever – unless you find a way to preserve it and attach it to the digital surrogate. Metadata provides that mechanism. It allows the next user to learn where the original material work is held, who made it, and whether any restrictions apply to the reuse of the surrogate. If the metadata indicates the digital surrogate is restricted, that user might refrain from engaging in unauthorized reuse.

On the other hand, if the digital surrogate fails to include reference to copyright, although the cultural institution claims copyright through its website terms, unauthorized reuse might expose a subsequent user to liability for infringement, regardless of their intent, knowledge or understanding of the law. Consider, for example, rights information in the metadata for the works in this exhibition. Of the 100 works that make up the exhibition, institutions expressly asserted or claimed copyright in relation to 72 digital surrogates of those works. However, of these, 53 included no rights information whatsoever in the metadata. Indeed, as previously noted, 37 of the 100 digital surrogates lack any metadata at all. Once made available online, these works risk becoming *de facto* orphans. The prevalence and management of both analogue and digital orphan works is already a widely recognized challenge for the sector, yet many institutions appear to be unwittingly exacerbating this phenomenon by releasing digital surrogates to the internet stripped of their metadata.

Information to be displayed on sticker (with metadata)										Legal information, links, and notes	
#	Image	Artist	Title	Dimensions	CI Author	CI Title	CI Dimens.	Print	CI License	Terms of Use	Defenses & Notes
1		Gustav Klimt, 1904-1907	Friends (Water Serpents I)	50 x 70 cm	Belvedere Vienna, Austria	See notes	808 (pg) 310 x 750 px 4.306 x 10.417 in 72 px/in	96.636 ppi/n Printed by OPS	Price available upon request public@belvedere.at	© Österreichische Galerie Belvedere Terms of Use : "Copyright all texts, illustrations, graphics, audio and video documents and other materials to be found on this website are protected by copyright law. Trademark logos shown on the website may also be protected by trademark and copyright laws. Any such rights shall remain with the trademark or copyright holder. Any alteration of their content is strictly prohibited. No reproduction, publication or other exploitation of such contents of the website shall be permitted unless Belvedere or the trademark of copyright holder has given its prior written consent."	★ Terms prohibit use ● No legal exception CI Title: 0x265F6D303D48F4F594625A4A19B70B Network
2		Marie Auguste Berni, 1841-1919	Mlle Georgette Charpentier Seated, 1876	97.8 x 70.8 cm measures: 97.8 x 97.8 cm	Bridgestone Museum of Art Tokyo, Japan	Ing. J. Imw. a. 05	808 (pg) 430 x 430 px 5.972 x 5.972 in 72 px/in	11.158 ppi/n Printed by OPS	Price available upon request public-ny@bridgestone-museum.jp	© Bridgestone Museum of Art Terms of Use : "Copyrights, trademarks, and other rights: Copyright and other rights to all materials on this website (text, images, and data) are held by the Museum or by rights holders who have approved the Museum's use of those materials. Copying, downloading, reproduction, or other use of these materials beyond the personal use and other uses expressly permitted by Japanese law, without permission by the rights holder, is prohibited."	★ Terms prohibit use ● Possibility of authorization through Art. 35 Copyright Law of Japan Network : see Terms of Use and related links
3		Fujishima Tameji, 1867-1943	Black Fan, 1906-1909	63.7 x 42.4 cm measures: 63.7 x 63.7	Bridgestone Museum of Art Tokyo, Japan	Ing. J. Imw. a. 04	808 (pg) 430 x 430 px 5.972 x 5.972 in 72 px/in	17.146 ppi/n Printed by OPS	Price available upon request public-ny@bridgestone-museum.jp	© Bridgestone Museum of Art Terms of Use : "Copyrights, trademarks, and other rights: Copyright and other rights to all materials on this website (text, images, and data) are held by the Museum or by rights holders who have approved the Museum's use of those materials. Copying, downloading, reproduction, or other use of these materials beyond the personal use and other uses expressly permitted by Japanese law, without permission by the rights holder, is prohibited."	★ Terms prohibit use ● Possibility of authorization through Art. 35 Copyright Law of Japan Network : see Japanese Western Style Painting
4		Silvestro Lega, 1826-1895	Il Canto di uno stormello (The song of the storm), 1867	158 x 98 cm	Galleria d'Arte Moderna di Palazzo Pitti Firenze, Italy	thum300	808 (pg) 226 x 350 px 3.069 x 4.861 in 72 px/in	5.591 ppi/n Printed by OPS	Price available upon request gghfflor@pal-museo.firenze.it	"Copyright 2015 - Ministero per i Beni e le Attività Culturali Soprintendenza Speciale per il Patrimonio Storico, Artistico ed Etnoantropologico e per il Polo Museale della città di Firenze. Tutti i diritti riservati. All rights reserved." Copyright : "The contents of the site - scripts, codes, graphics, texts, tables, images, sounds and all other information available in any form - are protected pursuant to the legislation in force covering intellectual property. The software and information content, except as otherwise indicated, can be downloaded or used for personal use, or non-commercial citing the source. For other uses (profit commercial) is allowed to use, copy and distribute documents and related images available on the site only with written permission. The copyright notices, authors where indicated, or the source itself must in all cases be cited in publications produced and disseminated in any form."	★ Terms prohibit use ● Possibility of authorization through Art. 70 Law no. 658 of 22 April 1941 Network : Terms are translated from Italian by Google Translate Museum collection online
5		Cornelis de Heem, 1652-1695	Stillleben mit Hummer, around 1655/56	63 x 49.5 cm	Kunsthaus Zürich - The Museum for Modern Art in Zürich, Switzerland	hemm_b_0903a76738	808 (pg) 495 x 585 px 4.56 x 5.66 in 100 px/in	28.586 ppi/n Printed by OPS	Price available upon request Carole.Brunner@kunsthaus.ch	© Kunsthaus Zürich Terms of Use : "Copyrights: All rights reserved. Without permission reproduction and any other use of the work besides the individual and private consultation is forbidden."	★ Terms prohibit use ● No legal exception Network : Department of Rights and Reproductions
6		Ferdinand Hodler, 1859-1918	Evening over the Lake of Geneva, 1895	100 x 180 cm	Kunsthaus Zürich - The Museum for Modern Art in Zürich, Switzerland	huder_1865_15_156	808 (pg) 495 x 349 px 6.38 x 4.647 in 72 px/in	8.865 ppi/n Printed by OPS	Price available upon request Carole.Brunner@kunsthaus.ch	© Kunsthaus Zürich Terms of Use : "Copyrights: All rights reserved. Without permission reproduction and any other use of the work besides the individual and private consultation is forbidden."	★ Terms prohibit use ● No legal exception Network : Department of Rights and Reproductions

Fig. 15

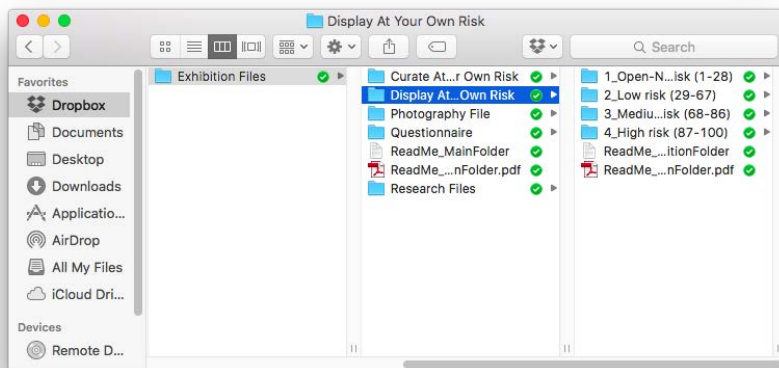


Fig. 16

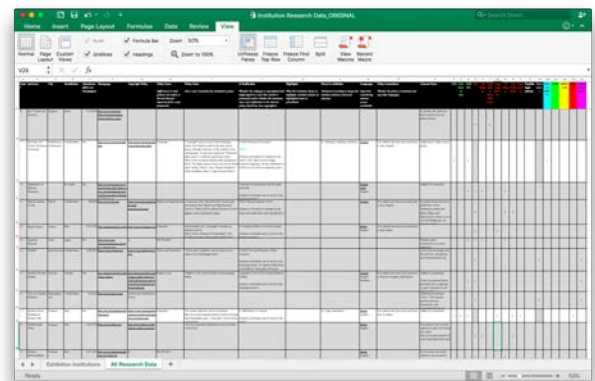


Fig. 17

Figure 15

Full digital surrogates image key organized by risk, containing relevant terms and conditions and legal considerations (showing high risk digital surrogates numbers 87-92)

Figure 16

Screenshot of the open source exhibition file folder contents

Figure 17

'Institution Research Data' spreadsheet, available in the 'Research Files' folder of the open source exhibition file

MAKING AVAILABLE

It is unsurprising that copyright issues impacted not only how the research and print exhibition took shape, but also the final form of the open source exhibition (see Figs 14-17). Copyright law posed several obstacles for making available online key components of the open source exhibition.

First, we made the decision to *not* claim copyright in our exhibition photography. This decision was discussed and agreed with both the photographer and the University of Glasgow. However, this is simply an assertion of 'no copyright': copyright arises at the point of creation and our statement about the copyright status of these photographs does not determine whether any such rights actually exist. Similarly, our decision to not claim copyright is not intended to suggest that all exhibition photography of this kind

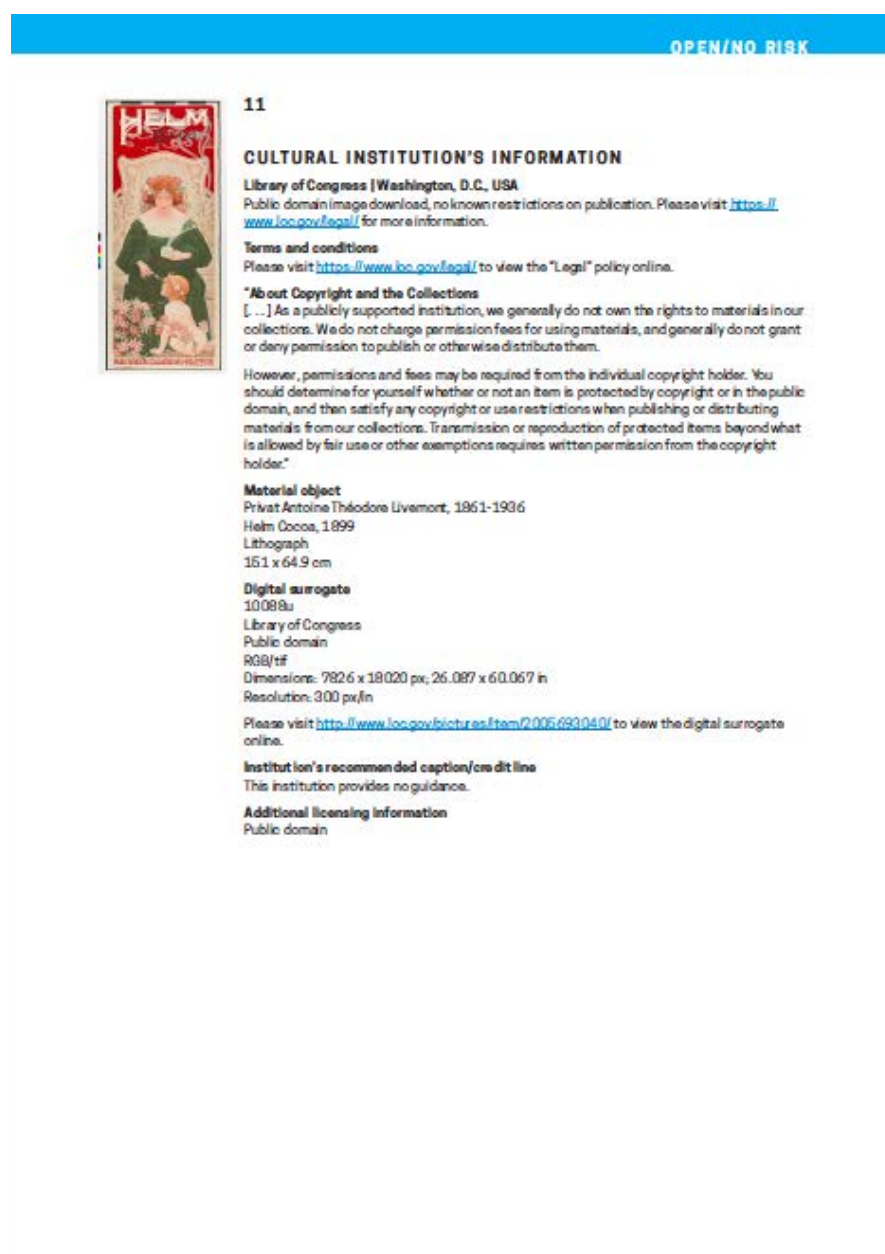


Fig. 18

Figure 18

Page one of 'ReadMe_Digital surrogate and exhibition information' PDF document included in each work's folder, containing information relevant to the cultural institution and reuse (showing low risk digital surrogate number 11)

Figure 19

Page two of 'ReadMe_Digital surrogate and exhibition information' PDF document included in each work's folder, containing DAYOR's information relevant to the reuse (showing low risk digital surrogate number 11)

Figure 20

Title card included in each work's folder (showing low risk digital surrogate number 11)



Fig. 19



Fig. 20

can be assumed to be in the public domain. As we set out above, that will depend on a range of different factors, including the relevant law of the jurisdiction where protection is claimed.

Second, we had to carefully consider how we chose to make use of the exhibition photography for the open source materials, as well as the exhibition publication. Instead of using thumbnail images of the digital surrogates, we used only thumbnails of our own exhibition photography. In fact, none of the original digital surrogates are used in any of the publication or research materials (although they are, of course, 'embedded' within the exhibition photography).

Third, the online display of our own exhibition photography raised infringement concerns, especially relating to digital surrogates we designated as medium and high risk. However, making photographs of the material surrogates available to examine and explore is key to the user's curation process and the aspirations of the online exhibition. To manage these two competing concerns, we took cues from cultural institutions that disable the right-click and download function by making our images of their digital surrogates

available in the same manner. This enables users to browse through the works and zoom in to examine the material surrogates in detail, but prevents the user from downloading the exhibition photograph itself.

Similarly, concerns about exposure to liability for copyright infringement influenced the structure of the open source exhibition file and its contents. A conscious decision was made to provide print files for resized digital surrogates in only the open and low risk categories (Figs 18-20). As such, instructions for how to locate, access, download and resize the institution's digital surrogate from its own website are provided in the medium and high risk folders in place of the print files.

Finally, regarding the curation of the print exhibition, we made the decision to display the works chronologically according to the year in which the artist died or, where such a date was unknown, the year of the work's creation. Generally, it is the year in which the artist died that triggers the countdown to the expiration of copyright in the original work.

CONCLUSION

The relationship between intellectual property law and digital cultural heritage may seem confusing, indeed confounding at times; but it is not without hope. Great efforts are being taken within the cultural heritage sector to enhance our shared understanding of these issues and to educate institutions on how best to navigate these complex waters. A good example is *Rights and Reproductions: The Handbook for Cultural Institutions*, co-published in 2015 by the Indianapolis Museum of Art and the American Alliance of Museums. It is, arguably, the first comprehensive resource to focus on rights and reproductions guidelines, established standards, and emerging best practices for heritage institutions.²⁹ Similarly, the recent launch of the RightsStatements.org project, a joint initiative of Europeana and the Digital Public Library of America, provides cultural institutions with simple terms for rights statements that summarize the copyright status of works in their collections.³⁰

These developments will certainly impact future content released online, but what about content that is already out there?

As new technologies provide opportunities to make other types of digital surrogates, offering new forms of engagement, do these new surrogates have a stronger claim to copyright protection? And if so, what are the implications? *Display At Your Own Risk* does not attempt to answer these questions; it simply sheds light on the current status of digital cultural heritage. But, these questions will need to be seriously considered in the very near future. Technology is developing at a seemingly exponential pace; and copyright law is struggling to catch up. Ultimately, it is users who get caught in the gap, and it is the future of our shared cultural heritage and the creation of new cultural goods that suffers.

29 Registrars Committee of the American Alliance of Museums, 'Recent Publications', available at: <http://www.rcaam.org/about/news/rights-reproductions-the-handbook-for-cultural-institutions/> (accessed: 22 April 2016).

30 Rights Statements, available at: <http://rightsstatements.org/en/> (accessed: 22 April 2016).



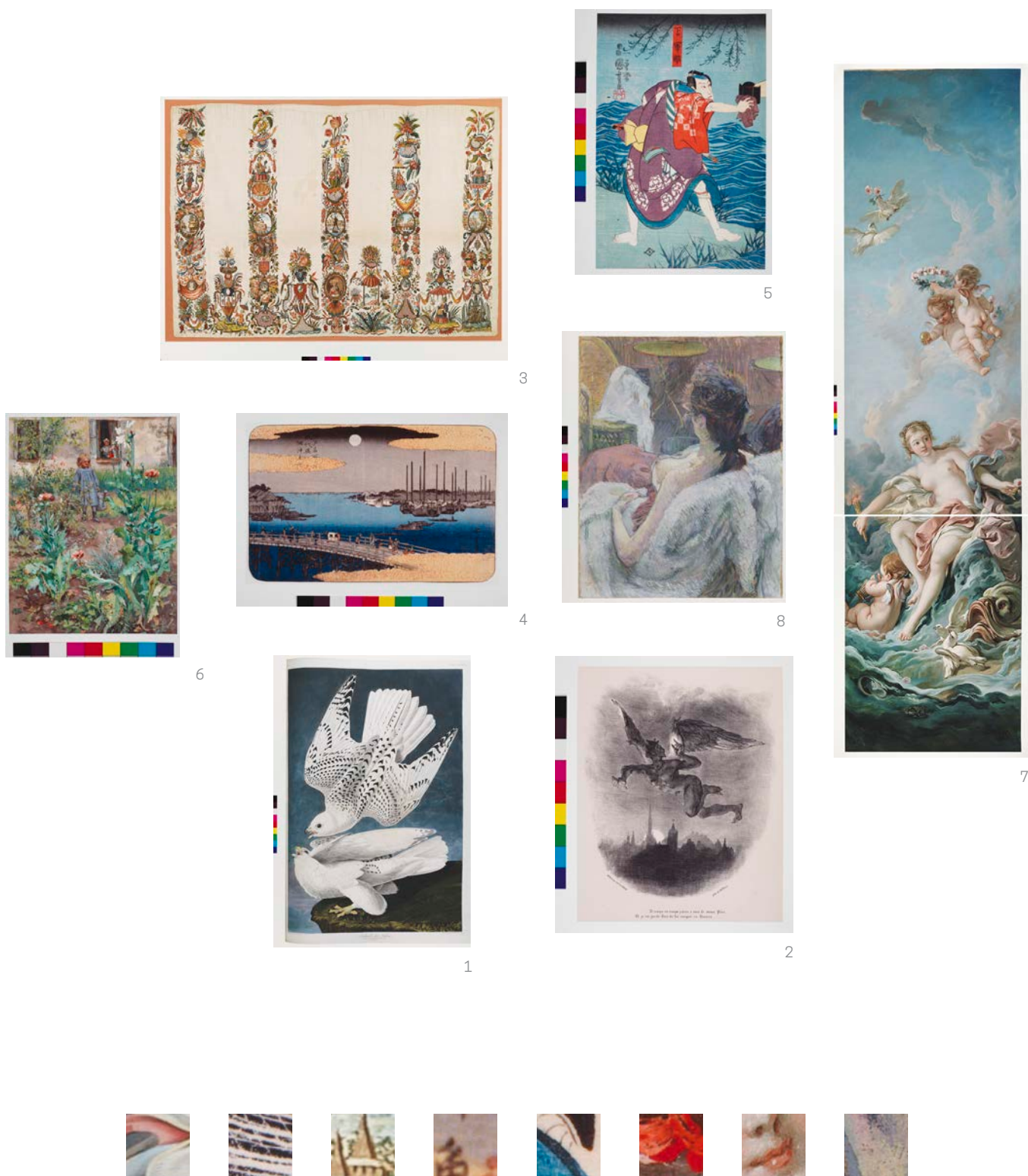
Part One:

Open/No risk

British Library ▪ Davison Art Center, Wesleyan University ▪ Indianapolis Museum of Art ▪ J. Paul Getty Museum ▪ Library of Congress ▪ Los Angeles Country Museum of Art ▪ Museum für Kunst und Gewerbe Hamburg ▪ Museum of New Zealand Te Papa Tongarewa ▪ National Gallery of Art ▪ National Gallery of Denmark – Statens Museum for Kunst ▪ National Library of Wales ▪ Rijksmuseum ▪ Walters Art Museum ▪ Yale Center for British Art

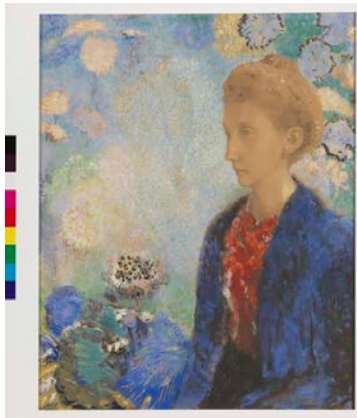
Digital surrogates in this category may or may not be in copyright; different cultural institutions make different claims in this regard, and whether the digital surrogate is in fact protected by copyright would have to be determined in accordance with the relevant criteria for copyright protection where protection is claimed. But, even if copyright applies the institution has made the digital surrogate available for all types of use, including commercial use. As such, use of the digital surrogate carries no risk.

On left: A13790, National Gallery of Art, 299 px/in, 2016. Roger van der Weyden (Netherlandish, 1399/1400-1464), Portrait of a Lady, c. 1460, Oil on panel, 34 x 25.5 cm, Andrew W. Mellon Collection, National Gallery of Art, Washington, DC. Courtesy National Gallery of Art, Washington. This digital surrogate is in the public domain.



Open/No risk

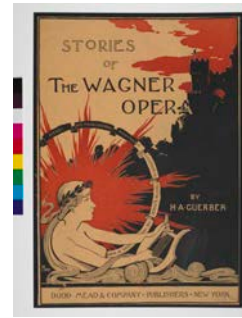
- | | | | |
|---|---|---|--|
| 1 | audubon-birdsof-america
yrl-falconpage73, 2009
British Library
100 x 67 cm | 5 | 0_download, 2009
Indianapolis Museum of Art
36.2 x 25.4 cm |
| 2 | DAC_1944-D1-289-2_001_OA, 2013
Davison Art Center
27 x 23.8 cm | 6 | 0_download, 2014
Indianapolis Museum of Art
27 x 21.6 cm |
| 3 | 0_download, 2004
Indianapolis Museum of Art
91.44 x 99.06 cm | 7 | 00066101, unknown
The J. Paul Getty Museum
265.7 x 76.5 cm |
| 4 | 0_download, 2004
Indianapolis Museum of Art
22.23 x 35.24 cm | 8 | 00084801, 2015
The J. Paul Getty Museum
65.4 x 49.2 cm |



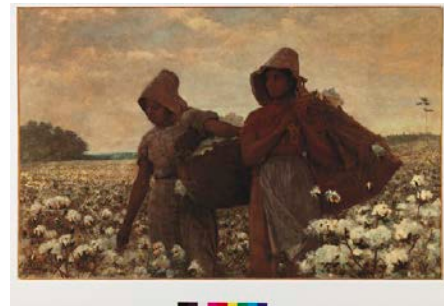
9



11



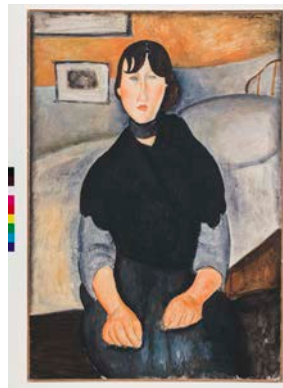
12



13



10



14



15



Open/No risk

- | | | | |
|----|---|----|---|
| 9 | 25741601, unknown
The J. Paul Getty Museum
61 x 42.4 cm | 13 | ma-34009488, 2009
Los Angeles County Museum of Art
61.12 x 96.84 cm |
| 10 | 11225201, 2015
The J. Paul Getty Museum
28.6 x 41.6 cm | 14 | ma-34792881, 2007
Los Angeles County Museum of Art
89.535 x 64.135 cm |
| 11 | 10088u, 2005
Library of Congress
151 x 64.9 cm | 15 | ma-31948123, 2007
Los Angeles County Museum of Art
24.13 x 24.13 cm |
| 12 | 42713u, 2014
Library of Congress
43 x 30 cm | | |



16



18



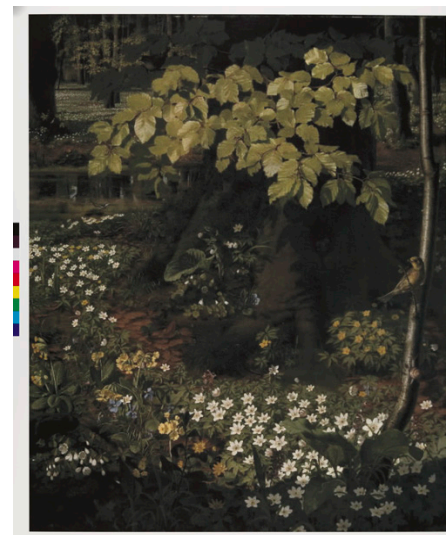
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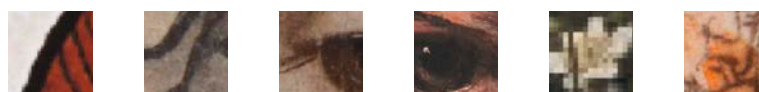
17



21



20



Open/No risk

- | | | | |
|----|--|----|--|
| 16 | EP2009.302-1, unknown
Museum für Kunst und
Gewerbe Hamburg
60 x 40 cm | 19 | A18640, unknown
National Gallery of Art
84.5 x 66 cm |
| 17 | MA_I275781.5205x6763, 2012
Museum of New Zealand
Te Papa Tongarewa
30 x 22.9 cm | 20 | img0020, unknown
National Gallery of Denmark
Statens Museum for Kunst
109.7 x 97.7 cm |
| 18 | A13790, unknown
National Gallery of Art
34 x 25.5 cm | 21 | KKS10458.5, 2006
National Gallery of Denmark
Statens Museum for Kunst
27 x 18.3 cm |



22



27



24



28



25



23



26



Open/No risk

- 22 **pei00176**, unknown
National Library of Wales
29.4 x 20.8 cm
- 23 **SK-A-268-01**, 2010
Rijksmuseum
75 x 60 cm
- 24 **SK-C-206-00**, 2008
Rijksmuseum
25 x 30 cm
- 25 **W669**, unknown
The Walters Art Museum
29.5 x 20.5cm

- 26 **cps_w624203b_fp_dd-2**, unknown
The Walters Art Museum
28.5 x 19 cm
- 27 **ba-obj-5033-0001-pubprint-lg**, 2008
Yale Center for British Art
59.1 x 76.2 cm
- 28 **ba-obj-52101-0001-pubprint-lg**, 2010
Yale Center for British Art
11.4 x 9.5 cm



This digital surrogate is in the public domain

1

DIGITAL SURROGATE

audubon-birdsof-america-gyrl-falconpage73, 2009
RGB/jpg, 696KB, 5.086M px
1803 x 2821 px; 6.01 x
9.403 in; 300 px/in

British Library,
London, United Kingdom

MATERIAL SURROGATE

audubon-birdsof-america-gyrl-falconpage73, British
Library, 67.259 px/in, 2016.
John James Audubon
(American, 1785-1851),
The Birds of America, c.
1827-38, Engraving in a
double elephant folio, 100
x 67 cm, British Library,
London

MATERIAL OBJECT

Audobon's *The Birds of
America* - double elephant
folio, c. 1827-38

John James Audubon,
1785-1851
Book
paper: 100 x 67 cm

LICENCE INFORMATION

Public domain



British Library

audubon-birdsof-america-gyrl-fal-
conpage73, created 2009

METADATA HIGHLIGHTS

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Exif.Image.Software	Adobe Photoshop CC (Windows)
Exif.Image.DateTime	2015:02:09 16:44:52
Exif.Image.Copyright	©The British Library Board
Exif.Image.ExifTag	336
Exif.Photo.ExposureTime	1/60 s
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Xmp.xmpMM.DocumentID	Adobe Photo- shop CC (Windows)
Xmp.dc.format	image/jpeg
Xmp.dc.title	lang="x-default" N.L. Tab. 2. (4). plate 366
Xmp.dc.rights	lang="x-default" ©The British Library Board
Xmp.xmpRights.Marked	False
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Iptc.Application2.City	London
Iptc.Application2.SubLocation	St Pancras
Iptc.Application2.CountryName	United Kingdom
Iptc.Application2.CountryCode	GBR
Iptc.Application2.Copyright	©The British Library Board



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DIGITAL SURROGATE

DAC_1944-D1-289-2_001_OA, 2013
 RGB/tif, 33.31MB, 13.45M px
 3283 x 4096 px; 10.943 x 13.653 in; 300 px/in

Davison Art Center,
 Wesleyan University,
 Middletown, Connecticut,
 USA

MATERIAL SURROGATE

DAC_1944-D1-289-2_001_OA, Davison Art Center, 350.371 px/in, 2016.
 Eugène Delacroix (French, 1798-1863), *Mephistopheles in the Air* (*Méphistophélès dans les airs*), 1828, from Faust, Lithograph, Third of five states, 27 x 28.3 cm, Davison Art Center, Wesleyan University, Middletown. DAC accession number 1944.D1.289.2, Gift of George W. Davison (B.A. Wesleyan 1892), 1944. Open Access Image from the Davison Art Center, Wesleyan University (photo: M. Johnston)

MATERIAL OBJECT

Mephistopheles in the Air (*Méphistophélès dans les airs*), 1828

Eugène Delacroix,
 1798-1863
 Print
 27 x 23.8 cm

LICENCE INFORMATION

Public domain



Davison Art Center, Wesleyan University

DAC_1944-D1-289-2_001_OA,
 created 2013

METADATA HIGHLIGHTS

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Exif.Image.Model	NIKON D800
Exif.Image.StripOffsets	34036 136604
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789224 913442 1040168 1172358 1309248	
1456420 1617938 1791602 1978514 2178072	
2391190 2612592 2840462 3071934 3308856	
3549756 3794492 4042880 4294186 4547436	
4800478 5053840 5307190 5560494 5813528	
6067160 6320456 6570368 6818528 7065916	
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19808586 20053310 20297608 20540604	
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www.wesleyan.edu/dac/openaccess (photo: M. Johnston).

Exif.Image.Copyright DAC Open Access Image from the Davison Art Center, Wesleyan University. No known copyright restrictions. See <http://www.wesleyan.edu/dac/openaccess> for details.

Xmp.dc.title lang="x-default" Open Access Image from the Davison Art Center, Wesleyan University

Xmp.dc.rights lang="x-default" DAC Open Access Image from the Davison Art Center, Wesleyan University. No known copyright restrictions. See <http://www.wesleyan.edu/dac/openaccess> for details.

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Iptc.Application2.Caption Eugène Delacroix (French, 1798 - 1863). Mephistopheles in the Air (Méphistophélès dans les airs), 1828. From Faust. Lithograph. Third of five states. Gift of George W. Davison (B.A. Wesleyan 1892), 1944. DAC accession no. 1944.D1.289.2. Open Access Image from the Davison Art Center, Wesleyan University. <http://www.wesleyan.edu/dac/openaccess> (photo: M. Johnston).



This digital surrogate is in the public domain

3

DIGITAL SURROGATE

O_download, 2004
RGB/jpg, 1.95MB, 3.787M
px
2361 x 1604 px; 7.87 x
5.347 in; 300 px/in

Indianapolis Museum of Art,
Indianapolis, Indiana, USA

MATERIAL SURROGATE

O_download, Indianapolis
Museum of Art, 60.538 px/
in, 2016. *Woman's Apron*,
about 1760, Silk, silk and
metallic threads, 91.44
x 99.06 cm, Indianapolis
Museum of Art, Indianapo-
lis. Image courtesy of the
Indianapolis Museum of Art

MATERIAL OBJECT

Woman's Apron, about
1760

67.3 x 99.06 cm
Silk, silk and metallic
threads

LICENCE INFORMATION

Public domain



Indianapolis Museum of Art

O_download, created 2004

METADATA HIGHLIGHTS

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Exif.Image.YResolution 300
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Camera Raw 8.3 (Macintosh)
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Set Clipping Path To: clipping path
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Xmp.xmp.Label Review
Xmp.xmpMM.DocumentID xmp.did:e-
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Xmp.xmpMM.InstanceID xmp.iid:e0bb5d1f-
3d66-451b-b40b-03eb427f8466
Xmp.xmpMM.OriginalDocumentID adobe:do-
cid:photoshop:161e9547-3ed3-11d9-bbf5-c91a7
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adobe:docid:photoshop:161e9547-3ed3-11d9-bbf
5-c91a723e7d13
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tID adobe:docid:photoshop:161e9547-3ed3-11d9-
bbf5-c91a723e7d13
Iptc.Application2.RecordVersion 4
Iptc.Application2.DigitizationDate 2004-11-23
Iptc.Application2.DigitizationTime 10:43:46-
08:00



This digital surrogate is in the public domain

4

DIGITAL SURROGATE

O_download, 2004
RGB/raw.jpg, 1.651MB,
5.327M px
2721 x 1727 px; 11.338
x7.196 in; 240 px/in

Indianapolis Museum of Art,
Indianapolis, Indiana, USA

MATERIAL SURROGATE

O_download, Indianapolis
Museum of Art, 196.122
px/in, 2016. Utagawa
Hiroshige (Japanese,
1797-1858), *Eitai Bridge*,
about 1830-1858, Ink on
paper, color woodblock
print, 22.23 x 35.24 cm,
Indianapolis Museum of
Art, Indianapolis. Image
courtesy of the Indianapolis
Museum of Art

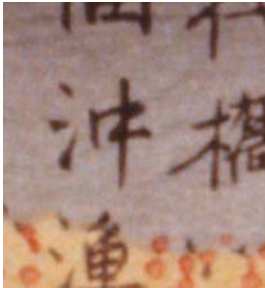
MATERIAL OBJECT

Eitai Bridge, about 1830-
1858

Utagawa Hiroshige,
1797-1858
Ink on paper, color wood-
block print
22.23 x 35.24 cm

LICENCE INFORMATION

Public domain



Indianapolis Museum of Art

O_download, created 2014

METADATA HIGHLIGHTS

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Exif.Image.Orientation top, left
Exif.Image.XResolution 300
Exif.Image.YResolution 300
Exif.Image.ResolutionUnit inch
Exif.Image.Software Adobe Photoshop
Camera Raw 8.3 (Macintosh)
Exif.Image.DateTime 2014:06:30 11:51:45
Exif.Image.ExifTag 14286
Exif.Photo.ExifVersion 2.30
Exif.Photo.DateTimeDigitized 2004:12:08
13:45:18
Exif.Photo.ColorSpace Uncalibrated
Exif.Thumbnail.Compression JPEG (old-style)
Exif.Thumbnail.XResolution 72
Exif.Thumbnail.YResolution 72
Exif.Thumbnail.ResolutionUnit inch
Exif.Thumbnail.JPEGInterchangeFormatLength 13886
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Xmp.xmp.ModifyDate 2014-06-30T11:51:45-04:00
Xmp.xmp.MetadataDate 2014-06-30T14:26:16-04:00
Xmp.xmp.CreatorTool Adobe Photoshop
Camera Raw 8.3 (Macintosh)
Xmp.xmp.Label Review
Xmp.xmpMM.DocumentID xmp.did:02b76d42-4d19-4910-abe0-1fb55415fc5d
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Xmp.xmpMM.OriginalDocumentID ado-

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Xmp.xmpMM.History[2]/stEvt:action saved
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Xmp.xmpMM.History[2]/stEvt:when 2014-06-30T11:51:45-04:00
Xmp.xmpMM.History[2]/stEvt:softwareAgent Adobe Photoshop Camera Raw 8.3 (Macintosh)
Xmp.xmpMM.History[2]/stEvt:changed /
Xmp.xmpMM.History[3] type="Struct"
Xmp.xmpMM.History[3]/stEvt:action saved
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Xmp.crs.Version 6.3
Xmp.crs.ProcessVersion 5.7
Xmp.crs.WhiteBalance As Shot



5

DIGITAL SURROGATE

O_download, 2009
 RGB/jpg, 5.214MB, 14.98M
 px
 3195 x 4688 px; 10.65 x
 15.627 in; 300 px/in

Indianapolis Museum of Art,
 Indianapolis, Indiana, USA



MATERIAL SURROGATE

O_download, Indianapolis
 Museum of Art, 328.937
 px/in, 2016. Utagawa
 Kuniyoshi (Japanese,
 1797- 1861), *Kaidan*
Sumidagawa (Sumida River
Ghost Story), 1847-1848,
 Color woodblock print (ôban
 triptych), 36.2 x 25.4 cm,
 Indianapolis Museum of
 Art, Indianapolis. Image
 courtesy of the Indianapolis
 Museum of Art

MATERIAL OBJECT

*Kaidan Sumidagawa (Su-
 mida River Ghost Story)*,
 1847-1848

Utagawa Kuniyoshi, 1797-
 1861
 Color woodblock print (ôban
 triptych)
 36.2 x 25.4 cm

LICENCE INFORMATION

Public domain



Indianapolis Museum of Art

O_download, created 2009

METADATA HIGHLIGHTS

Exif.Image.Make	Canon
Exif.Image.Model	Canon EOS 5D Mark II
Exif.Image.Orientation	top, left
Exif.Image.XResolution	300
Exif.Image.YResolution	300
Exif.Image.ResolutionUnit	inch
Exif.Image.Software	Adobe Photoshop
Camera Raw 8.3 (Macintosh)	
Exif.Image.DateTime	2014:04:01 13:00:21
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Exif.Photo.ExposureProgram	Manual
Exif.Photo.ISOSpeedRatings	100
Exif.Photo.ExifVersion	2.30
Exif.Photo.DateTimeOriginal	2009:07:21 13:46:23
Exif.Photo.DateTimeDigitized	2009:07:21 13:46:23
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Exif.Photo.Flash	No, compulsory
Exif.Photo.FocalLength	50.0 mm
Exif.Photo.SubSecTimeOriginal	31
Exif.Photo.SubSecTimeDigitized	31
Exif.Photo.ColorSpace	Uncalibrated
Exif.Photo.FocalPlaneXResolution	3849.21
Exif.Photo.FocalPlaneYResolution	3908.14
Exif.Photo.FocalPlaneResolutionUnit	inch
Exif.Photo.ExposureMode	Manual
Exif.Photo.WhiteBalance	Auto

Exif.Photo.SceneCaptureType	Standard
Exif.Photo.BodySerialNumber	420306836
Exif.Photo.LensSpecification	50/1 50/1 0/0 0/0
Exif.Photo.LensModel	EF50mm f/2.5 Compact Macro
Exif.Thumbnail.Compression	JPEG (old-style)
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Exif.Thumbnail.YResolution	72
Exif.Thumbnail.ResolutionUnit	inch
Exif.Thumbnail.JPEGInterchangeFormat	800
Exif.Thumbnail.JPEGInterchangeFormatLength	17359
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Xmp.xmp.CreatorTool	Adobe Photoshop
Camera Raw 8.3 (Macintosh)	
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Xmp.aux.ImageNumber	0
Xmp.aux.FlashCompensation	0/1
Xmp.aux.Firmware	1.1.0
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Xmp.xmp.CreatorTool	Adobe Photoshop
Camera Raw 8.3 (Macintosh)	
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lptc.Application2.DigitizationDate	2009-07-21
lptc.Application2.DigitizationTime	13:46:23-04:00



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6

DIGITAL SURROGATE

O_download, 2014
 RGB/jpg, 16.93MB, 17.34M
 px
 3687 x 4703 px; 12.29 x
 15.677 in; 300 px/in

Indianapolis Museum of Art,
 Indianapolis, Indiana, USA



MATERIAL SURROGATE

O_download, Indianapolis
 Museum of Art, 442.43 px/
 in, 2016. Otto Stark (Ameri-
 can, 1859-1926), *Garden in
 Paris*, 1885, Oil on canvas,
 27 x 21.6 cm, Indianapolis
 Museum of Art, Indianapo-
 lis. Image courtesy of the
 Indianapolis Museum of Art

MATERIAL OBJECT

Garden in Paris, 1885

Otto Stark, 1859-1926
 Oil on canvas
 27 x 21.6 cm

LICENCE INFORMATION

Public domain



Indianapolis Museum of Art

O_download, created 2014

METADATA HIGHLIGHTS

Exif.Image.ImageWidth	4711
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Exif.Image.BitsPerSample	8 8 8
Exif.Image.Compression	Uncompressed
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Exif.Image.Model	P45
Exif.Image.Orientation	top, left
Exif.Image.SamplesPerPixel	3
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Exif.Image.PlanarConfiguration	1
Exif.Image.ResolutionUnit	inch
Exif.Image.Software	Capture One 7 Macintosh
Exif.Image.DateTime	2014:11:05 14:22:36
Exif.Image.ExifTag	9568
Exif.Photo.ExposureTime	1/125 s
Exif.Photo.FNumber	F11
Exif.Photo.ExposureProgram	Manual
Exif.Photo.ISOSpeedRatings	100
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Exif.Photo.DateTimeDigitized	2014:11:05 11:46:22
Exif.Photo.ShutterSpeedValue	1/125 s
Exif.Photo.ApertureValue	F11

Exif.Photo.ExposureBiasValue	0 EV
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Exif.Photo.BodySerialNumber	CT010107
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Xmp.aux.SerialNumber	CT010107
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7

DIGITAL SURROGATE

00066101, unknown
RGB/jpg, 20.23MB, 11.84M
px
1825 x 6488 px; 1.825 x
6.488 in; 1000 px/in

The J. Paul Getty Museum,
Los Angeles, California, USA

MATERIAL SURROGATE

00066101, The J. Paul
Getty Museum, 64.198 px/
in, 2016. François Boucher
(French, 1703-1770),
Venus on the Waves, 1769,
Oil on canvas, 265.7 x 76.5
cm (104 5/8 x 30 1/8 in.),
The J. Paul Getty Museum,
Los Angeles. Digital image
courtesy of the Getty's
Open Content Program

MATERIAL OBJECT

Venus on the Waves, 1769

François Boucher,
1703-1770
Oil on canvas
265.7 x 76.5 cm

LICENCE INFORMATION

Public domain



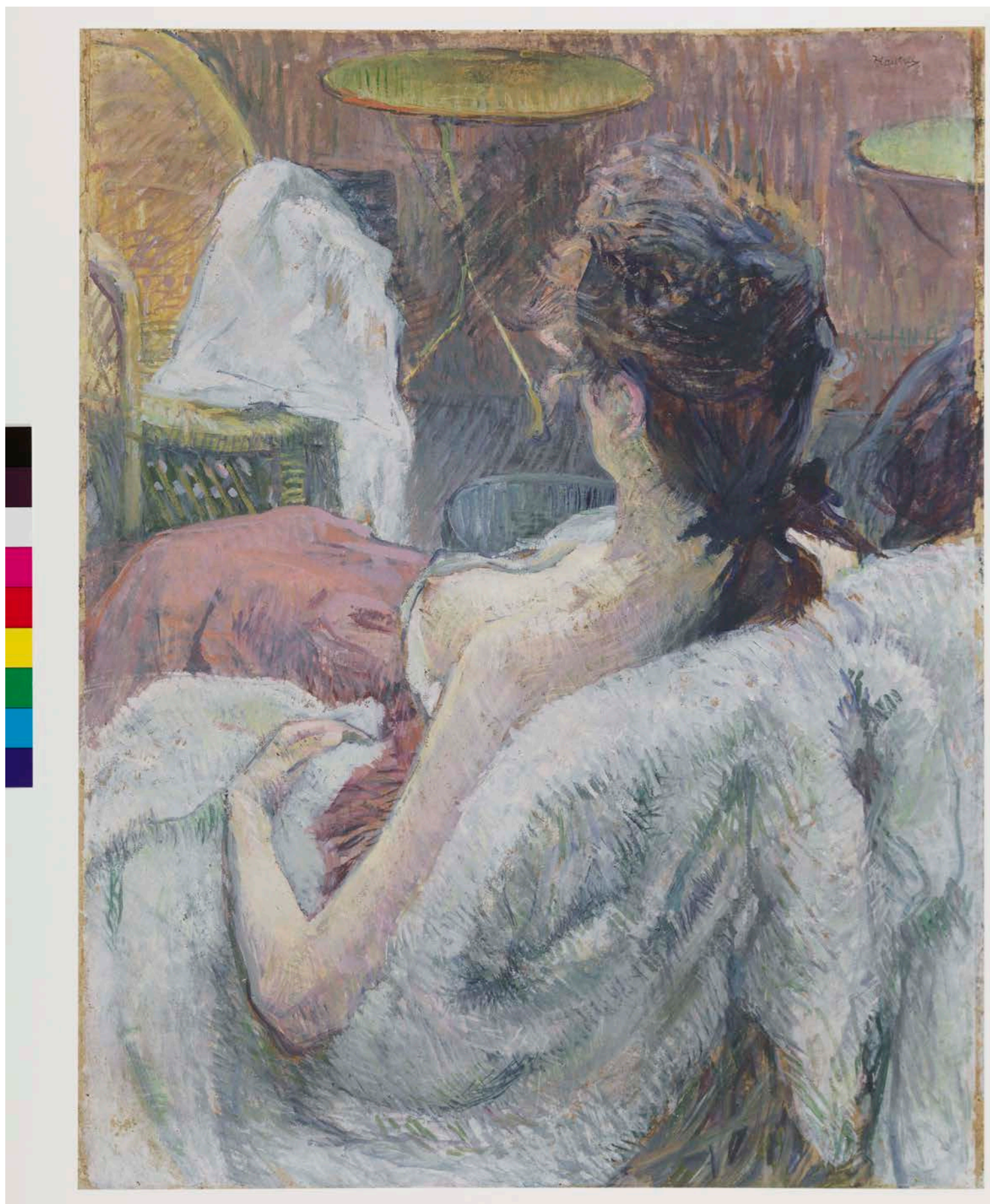
The J. Paul Getty Museum

00066101, unknown

METADATA

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Exif.Image.YResolution 1000
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Exif.Image.YCbCrPositioning Centred
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Xmp.iptc.CreatorContactInfo/Iptc4xmpCore:-
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Xmp.iptc.CreatorContactInfo/Iptc4xmpCore: CiE-
mailWork rights@getty.edu

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Work www.getty.edu
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Source The J. Paul Getty Museum, Los Angeles
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Museum
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nus on the Waves; François Boucher (French, 1703
- 1770); 1769; Oil on canvas; 265.7 x 76.5 cm (104
5/8 x 30 1/8 in.); 71.PA.54
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This digital surrogate is in the public domain

DIGITAL SURROGATE

00084801, 2015
RGB/jpg, 20.16MB, 13.8M
px
3217 x 4291 px; 3.217 x
4.291 in; 1000 px/in

The J. Paul Getty Museum,
Los Angeles, California, USA

MATERIAL SURROGATE

00084801, The J. Paul
Getty Museum, 166.654
px/in, 2016. Henri de
Toulouse-Lautrec (French,
1864 - 1901), *The Model
Resting*, 1889, Tempera or
casein with oil on card-
board, 65.4 x 49.2 cm (25
3/4 x 19 3/8 in.), The J.
Paul Getty Museum, Los
Angeles; Digital image cour-
tesy of the Getty's Open
Content Program

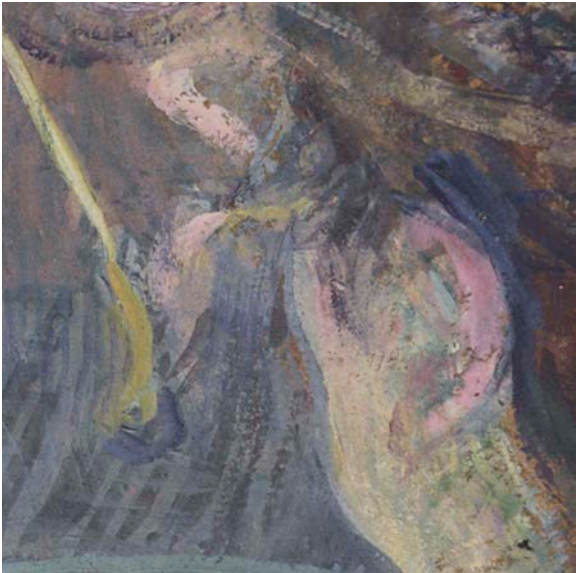
MATERIAL OBJECT

The Model Resting, 1889

Henri de Toulouse-Lautrec,
1864-1901
Tempera or casein with oil
on cardboard
65.4 x 49.2 cm

LICENCE INFORMATION

Public domain



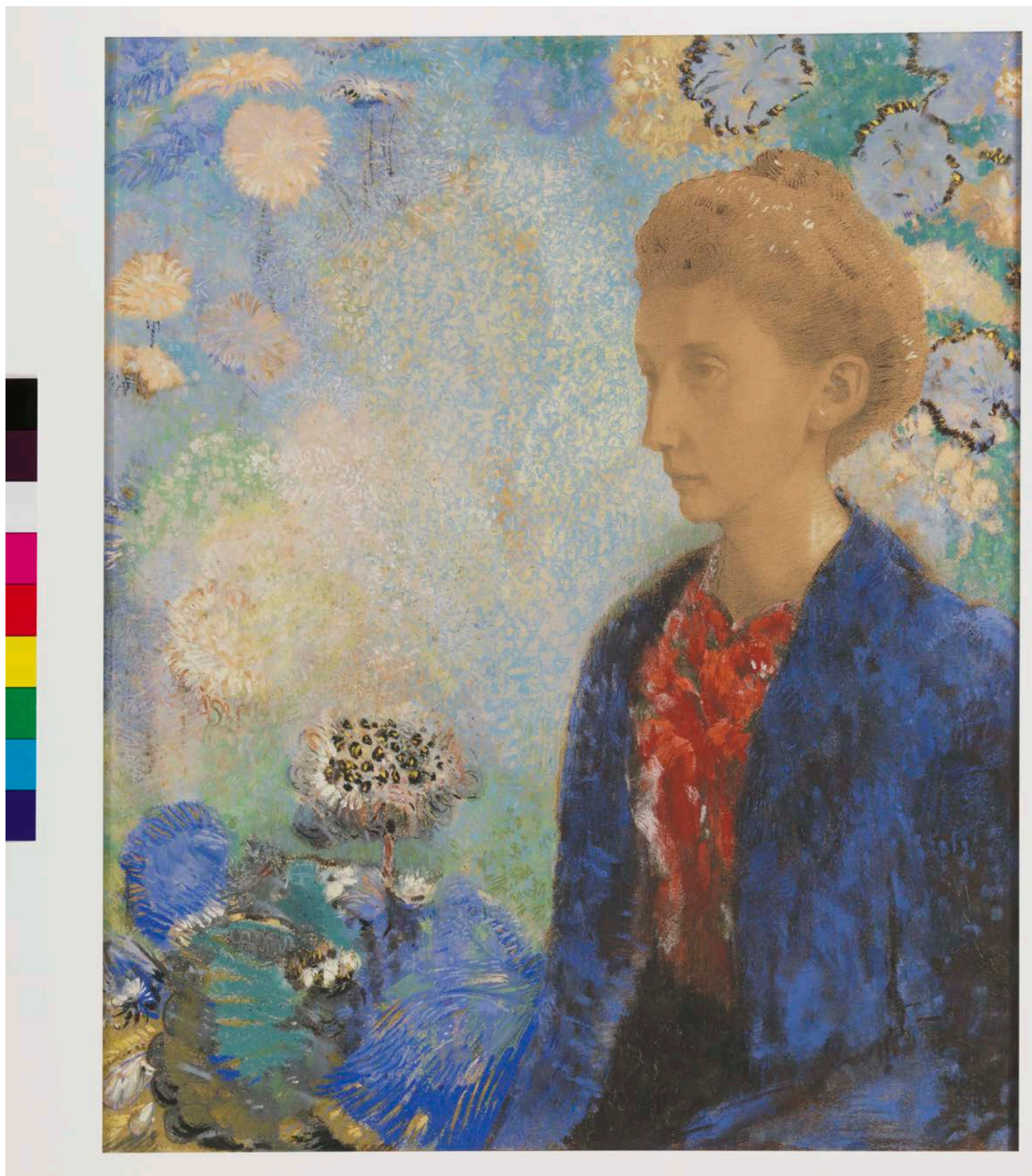
The J. Paul Getty Museum

00084801, created 2015

METADATA HIGHLIGHTS

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Exif.Image.ImageDescription The Model Resting;
Henri de Toulouse-Lautrec (French, 1864 - 1901);
1889; Tempera or casein with oil on cardboard; 65.4
x 49.2 cm (25 3/4 x 19 3/8 in.); 84.PC.39
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CS5.1 Macintosh
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Exif.Image.Artist The J. Paul Getty Museum
Exif.Image.YCbCrPositioning Centred
Exif.Image.ExifTag 456
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Exif.Photo.ColorSpace Uncalibrated
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Exif.Photo.PixelYDimension 4291
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Xmp.dc.creator The J. Paul Getty Museum
Xmp.dc.description lang="x-default" The
Model Resting; Henri de Toulouse-Lautrec (French,
1864 - 1901); 1889; Tempera or casein with oil on
cardboard; 65.4 x 49.2 cm (25 3/4 x 19 3/8 in.);
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Museum, Los Angeles
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CiAdrExtadr 1200 Getty Center Drive
Xmp.iptc.CreatorContactInfo/lptc4xmpCore:-
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Xmp.iptc.CreatorContactInfo/lptc4xmpCore:-
CiAdrRegion California
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Work www.getty.edu
Xmp.iptcExt.ArtworkOrObject[1]/lptc4xmpExt:AO-
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lptc.Application2.Caption The Model Resting;
Henri de Toulouse-Lautrec (French, 1864 - 1901);
1889; Tempera or casein with oil on cardboard; 65.4
x 49.2 cm (25 3/4 x 19 3/8 in.); 84.PC.39
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lptc.Application2.Source The J. Paul Getty
Museum, Los An
lptc.Application2.ObjectName The Model
Resting



This digital surrogate is in the public domain

DIGITAL SURROGATE

25741601, unknown
RGB/jpg, 24.51MB, 14.02M
px
3485 x 4023 px; 11.617 x
13.41 in; 300 px/in

The J. Paul Getty Museum,
Los Angeles, California, USA

MATERIAL SURROGATE

25741601, The J. Paul Get-
ty Museum, 208.771 px/in,
2016. Odilon Redon (French
1840-1916), *Baronne
de Domecy*, about 1900,
Pastel and graphite on light
brown laid paper, 61 x 42.4
cm (24 x 16 11/16 in.),
The J. Paul Getty Museum,
Los Angeles; Digital image
courtesy of the Getty's
Open Content Program

MATERIAL OBJECT

Baronne de Domecy, about
1900

Odilon Redon, 1840-1916
Pastel and graphite on light
brown laid paper
61 x 61 cm

LICENCE INFORMATION

Public domain



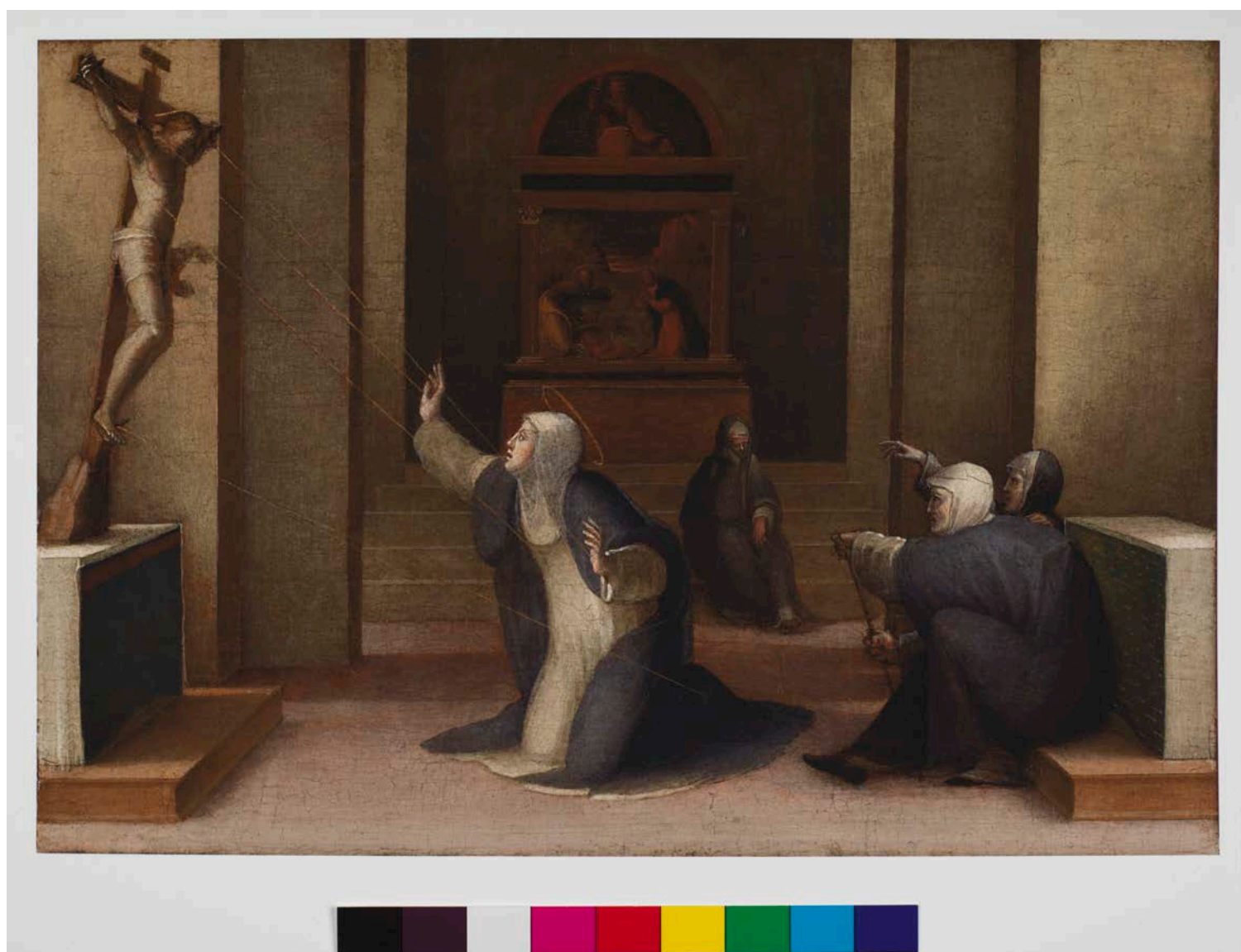
The J. Paul Getty Museum

25741601, unknown

METADATA

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Exif.Image.ResolutionUnit inch
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CiAdrCtry United States
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CiAdrRegion California
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Xmp.iptcExt.ArtworkOrObject[1]/Iptc4xmpExt:AO-
Source The J. Paul Getty Museum, Los Angeles
Xmp.iptcExt.ArtworkOrObject[1]/Iptc4xmpExt:AO-
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Museum
Xmp.dc.description lang="x-default"
Baronne de Domecy; Odilon Redon (French, 1840
- 1916); about 1900; Pastel and graphite on light
brown laid paper; 61 x 42.4 cm (24 x 16 11/16 in.);
2005.1
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de Domecy
Xmp.photoshop.Source The J. Paul Getty
Museum, Los Angeles
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28T17:09:49
Xmp.xmpRights.UsageTerms lang="x-de-
fault" http://www.getty.edu/legal/image_request/



This digital surrogate is in the public domain

10

DIGITAL SURROGATE

11225201, unknown
RGB/jpg, 50.91MB, 39.84M
px
7609 x 5236 px; 19.023 x
13.09 in; 400 px/in

The J. Paul Getty Museum,
Los Angeles, California, USA

MATERIAL SURROGATE

11225201, The J. Paul
Getty Museum, 464.588
px/in. Domenico Beccafumi
(Italian, 1484-1551), *Saint
Catherine of Siena Receiv-
ing the Stigmata*, about
1513 - 1515, Oil and gold
leaf on panel, 28.6 x 41.6
cm (11 1/4 x 16 3/8 in.),
The J. Paul Getty Museum,
Los Angeles; Digital image
courtesy of the Getty's
Open Content Program

MATERIAL OBJECT

*Saint Catherine of Siena
Receiving the
Stigmata*, about 1513 -
1515

Domenico Beccafumi,
1484-1551
Oil and gold leaf on panel
28.6 x 41.6 cm

LICENCE INFORMATION

Public domain



The J. Paul Getty Museum

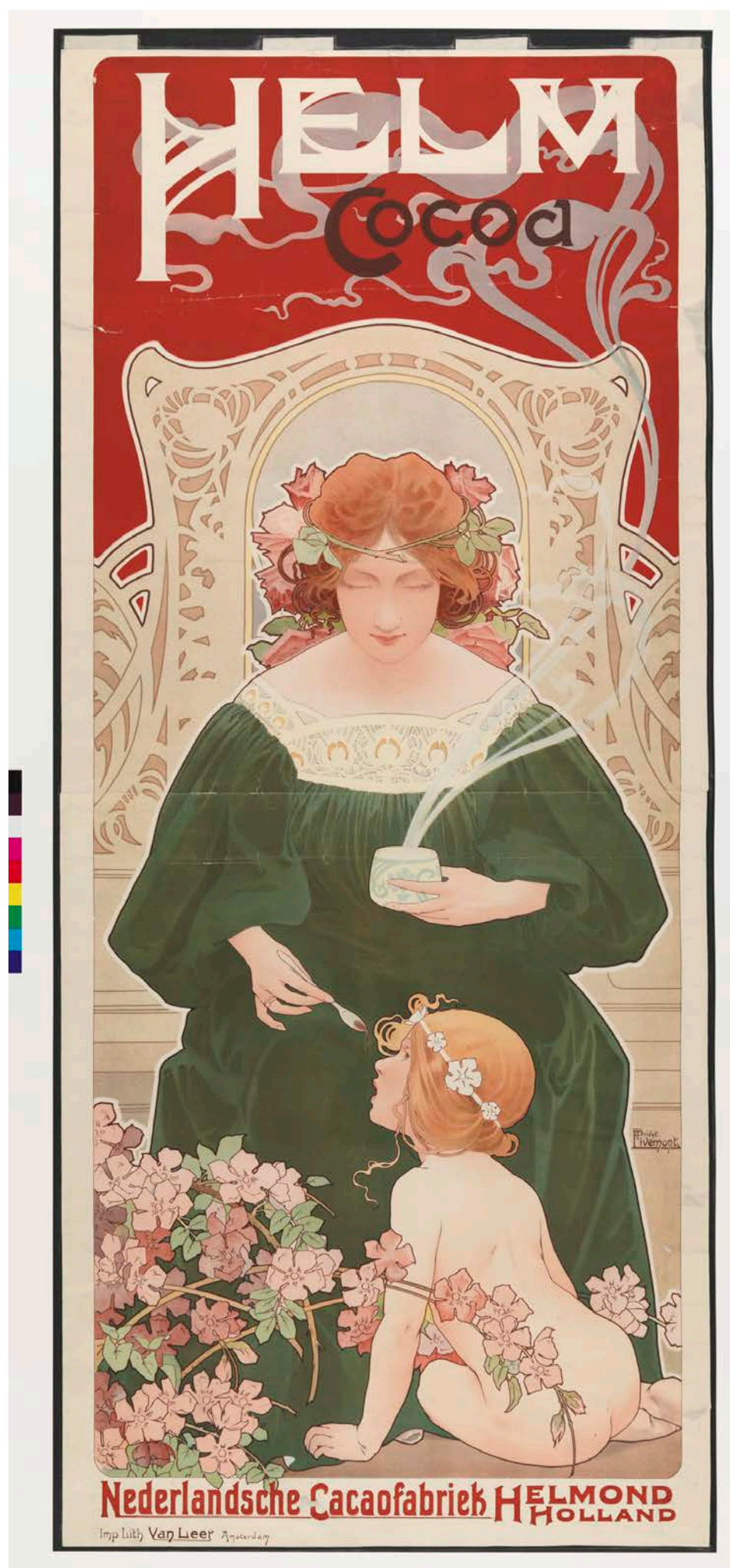
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Receiving the Stigmata
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Saint Catherine of Siena Receiving the Stigmata;
Domenico Beccafumi (Italian, 1484 - 1551); Italy;
about 1513 - 1515; Oil and gold leaf on panel; 28.6 x
41.6 cm (11 1/4 x 16 3/8 in.); 97.PB.25
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Catherine of Siena Receiving the Stigmata
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Museum, Los Angeles
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Xmp.xmpRights.UsageTerms lang="x-de-
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This digital surrogate is in the public domain

11

DIGITAL SURROGATE

10088u, 2005
RGB/tif, 423.1MB, 141M px
7826 x 18020 px; 26.087 x
60.067 in; 300 px/in

Library of Congress,
Washington, D.C., USA

MATERIAL SURROGATE

10088u, Library of Con-
gress, 300 px/in, 2016.
Privat Antoine Théodore
Livemont (Belgian 1861-
1936), *Helm Cocoa*, 1899,
Lithograph, 151 x 64.9 cm,
Library of Congress, Wash-
ington, DC

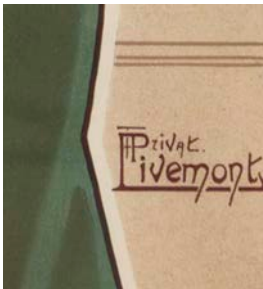
MATERIAL OBJECT

Helm Cocoa, 1899

Privat Antoine Théodore
Livemont, 1861-1936
Lithograph
151 x 64.9 cm

LICENCE INFORMATION

Public domain

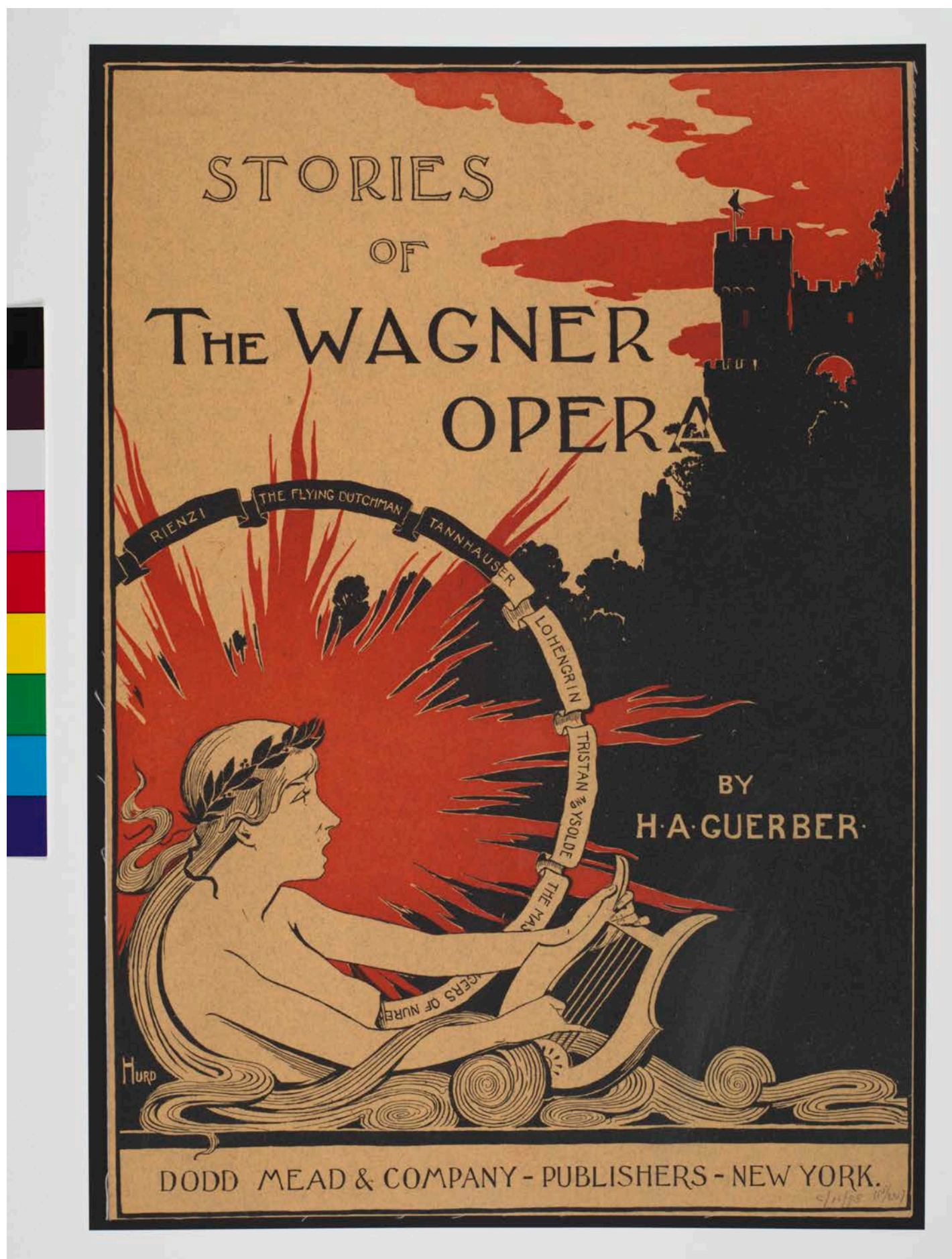


Library of Congress
10088u, created 2005

METADATA HIGHLIGHTS

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Xmp.xmp.CreatorTool Adobe Photoshop
CS Macintosh
Xmp.xmpMM.DerivedFrom type="Struct"



This digital surrogate is in the public domain

12

DIGITAL SURROGATE

42713u, 2014
RGB/tif, 101.7MB, 33.89M
px
4890 x 6930 px; 12.225 x
17.325 in; 400 px/in

Library of Congress,
Washington, D.C., USA

MATERIAL SURROGATE

42713u, Library of Con-
gress, 400 px/in, 2016.
L.F. Hurd (American, active
1890s), *Stories of the
Wagner opera* by H.A.
Guerber, Published 1895,
Print, 43 x 30 cm, Library of
Congress, Washington, DC

MATERIAL OBJECT

*Stories of the Wagner
opera* by H.A. Guerber,
Published 1895

L.F. Hurd
Print
43 x 30 cm

LICENCE INFORMATION

Public domain



Library of Congress

42713u, created 2014

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P&P	
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Exif.Image.Copyright	
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suppressed)	





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DIGITAL SURROGATE

ma-34009488, 2009
RGB/tiff, 19.17MB, 6.372M
px
3181 x 2003 px; 10.603 x
6.677 in; 300 px/in

Los Angeles County
Museum of Art,
Los Angeles, California, USA

MATERIAL SURROGATE

ma-34009488, Los
Angeles County Museum
of Art, 83.434 px/in, 2016.
Winslow Homer (American,
1836-1910), *The Cotton
Pickers*, 1876, Oil on can-
vas, 61.12 x 96.84 cm, Los
Angeles County Museum
of Art, Los Angeles, www.
lacma.org

MATERIAL OBJECT

The Cotton Pickers, 1876

Winslow Homer, 1836-
1910
Oil on canvas
61.12 x 96.84 cm

LICENCE INFORMATION

Public domain



Los Angeles County
Museum of Art

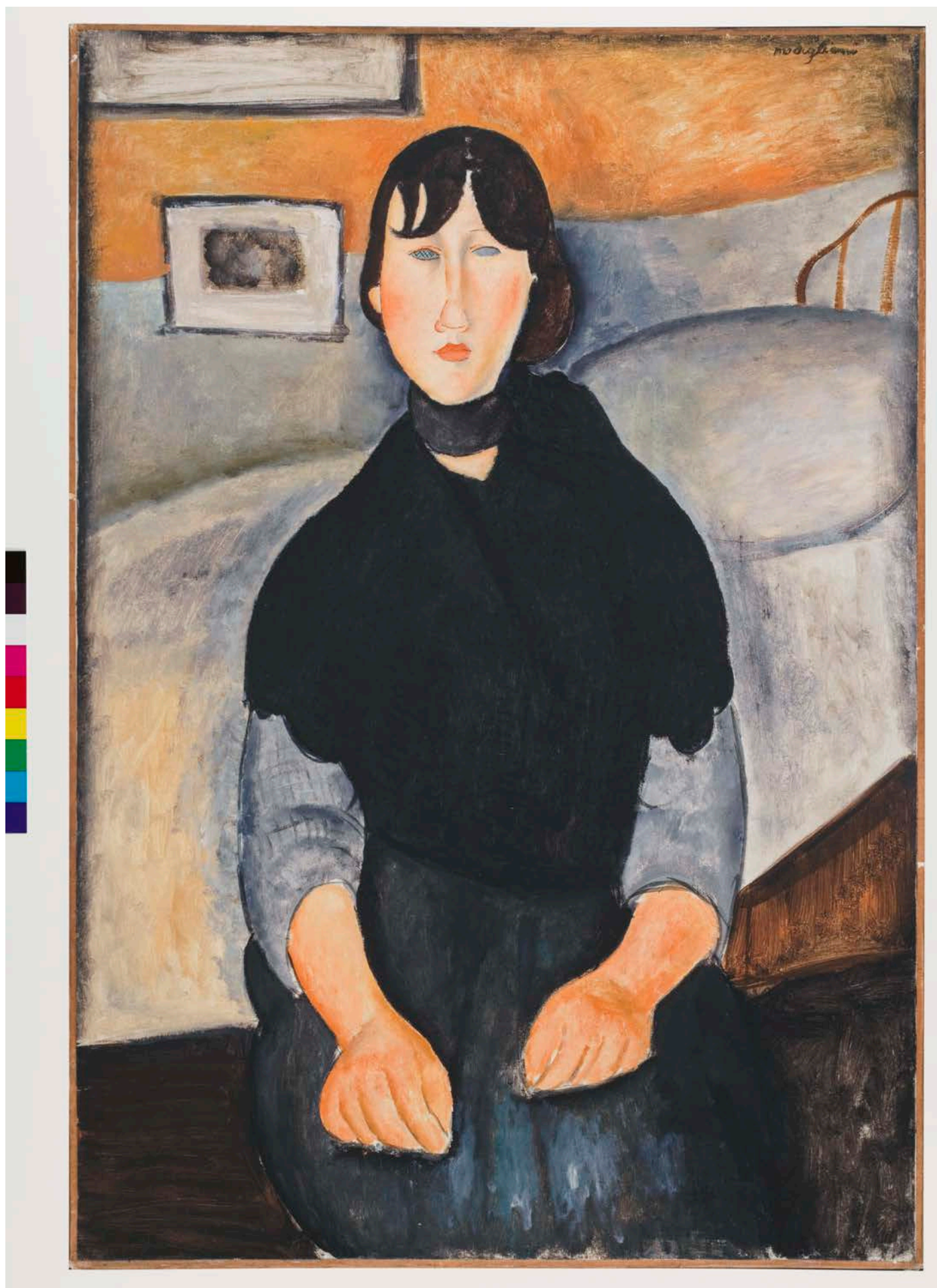
ma-34009488, created 2009

METADATA HIGHLIGHTS

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14

DIGITAL SURROGATE

ma-34792881, 2007
RGB/tiff, 18.75MB, 9.506M
px
2484 x 3827 px; 8.28 x
12.757 in; 300 px/in

Los Angeles County
Museum of Art,
Los Angeles, California, USA

MATERIAL SURROGATE

ma-34792881, Los An-
geles County Museum of
Art, 108.561 px/in, 2016.
Amedeo Modigliani (Italian,
1884-1920), *Young Woman
of the People*, 1918, Oil on
canvas, 89.535 x 64.135
cm, Los Angeles County
Museum of Art, Los Ange-
les; www.lacma.org

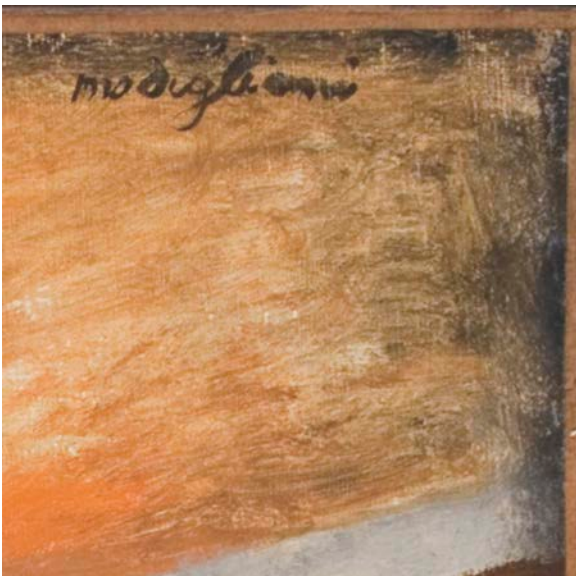
MATERIAL OBJECT

*Young Woman of the Peo-
ple*, 1918

Amedeo Modigliani, 1884-
1920
Oil on canvas
89.535 x 64.135 cm

LICENCE INFORMATION

Public domain



Los Angeles County
Museum of Art

ma-34792881, created 2007

METADATA HIGHLIGHTS

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Museum of Art
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Angeles County M, LACMA - The Los Angeles County
Museum of Art
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Xmp.photoshop.Instructions Contact LAC-
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Contact the Rights and Reproductions Department
at The Los Angeles County Museum of Art.



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15

DIGITAL SURROGATE

ma-31948123, 2007
RGB/tiff, 14.34MB, 7.514M
px
2698 x 2785 px; 4.497 x
4.642 in; 600 px/in

Los Angeles County
Museum of Art,
Los Angeles, California, USA

MATERIAL SURROGATE

ma-31948123, Los Ange-
les County Museum of Art,
293.158 px/in, 2016. Ernst
Ludwig Kirchner (German,
1880-1938), *Female nude*
(*Mädchenakt*), 1906,
Woodcut printed in rose
on heavy laid paper, 24.13
x 24.13 cm, Los Angeles
County Museum of Art, Los
Angeles; www.lacma.org

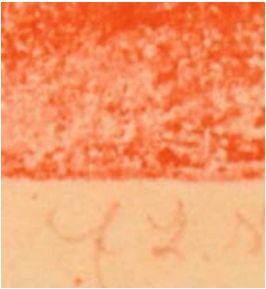
MATERIAL OBJECT

*Female nude (Mäd-
chenakt)*, 1906

Ernst Ludwig Kirchner,
1880-1938
Woodcut printed in rose on
heavy laid paper
24.13 x 24.13 cm

LICENCE INFORMATION

Public domain



Los Angeles County
Museum of Art

ma-31948123, created 2007

METADATA HIGHLIGHTS

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1937008743	1684955424	1885688352
1969516402	1869182051	1142977390
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lptc.Application2.ProvinceState	California	
lptc.Application2.CountryName	USA	
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16

DIGITAL SURROGATE

EP2009.302-1, unknown
 RGB/jpg, 1.128MB, 958K px
 798 x 1200 px; 11.083 x
 16.667 in; 72 px/in

Museum für
 Kunst und Gewerbe Ham-
 burg, Hamburg, Germany

MATERIAL SURROGATE

EP2009.302-1, Museum
 für Kunst und Gewerbe
 Hamburg, 50.8 px/in, 2016.
 Eugène Grasset (Swiss,
 1841-1917), *Poster for the
 Artist's Personal Exhibition
 at the Salon de Cent Gal-
 lery*, 1894, Color lithograph,
 60 x 40 cm, Museum für
 Kunst und Gewerbe Ham-
 burg, Hamburg; [http://www.
 mkg-hamburg.de/en/collec-
 tion/permanent-collection/
 poster/poster-for-the-art-
 ists-personal-exhibition-at-
 the-salon-de-cent-gallery.
 html](http://www.mkg-hamburg.de/en/collection/permanent-collection/poster/poster-for-the-artists-personal-exhibition-at-the-salon-de-cent-gallery.html)

MATERIAL OBJECT

*Poster for the Artist's
 Personal Exhibition at the
 Salon de Cent Gallery*,
 1894

Eugène Grasset, 1841-
 1917
 Color lithograph
 60 x 40 cm

LICENCE INFORMATION

Public domain



Museum für Kunst und Gewerbe Hamburg

EP2009.302-1, unknown

METADATA

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This digital surrogate is in the public domain

17

DIGITAL SURROGATE

MA_I275781.5205x6763,
2012
RGB/jpg, 6.488MB, 35.2M
px
5205 x 6763 px; 21.688 x
28.179 in; 240 px/in

Museum of New Zealand
Te Papa Tongarewa,
Wellington, New Zealand

MATERIAL SURROGATE

MA_I275781.5205x6763,
Museum of New Zealand Te
Papa Tongarewa, 572.601
px/in, 2016. John Buchanan
(English, 1819–1898),
Fossil plant specimen, c.
1864, Te Papa (1992-0035-
2279/79), Watercolor, ink
and pencil, 30 x 22.9 cm,
Museum of New Zealand Te
Papa Tongarewa, Wellington

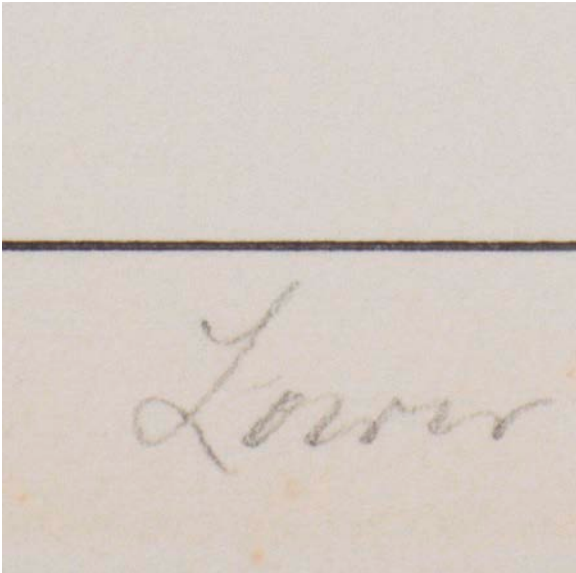
MATERIAL OBJECT

*Fossil plant specimen, c.
1864*

John Buchanan, 1819–
1898
Watercolor, ink and pencil
30 x 22.9 cm

LICENCE INFORMATION

Public domain



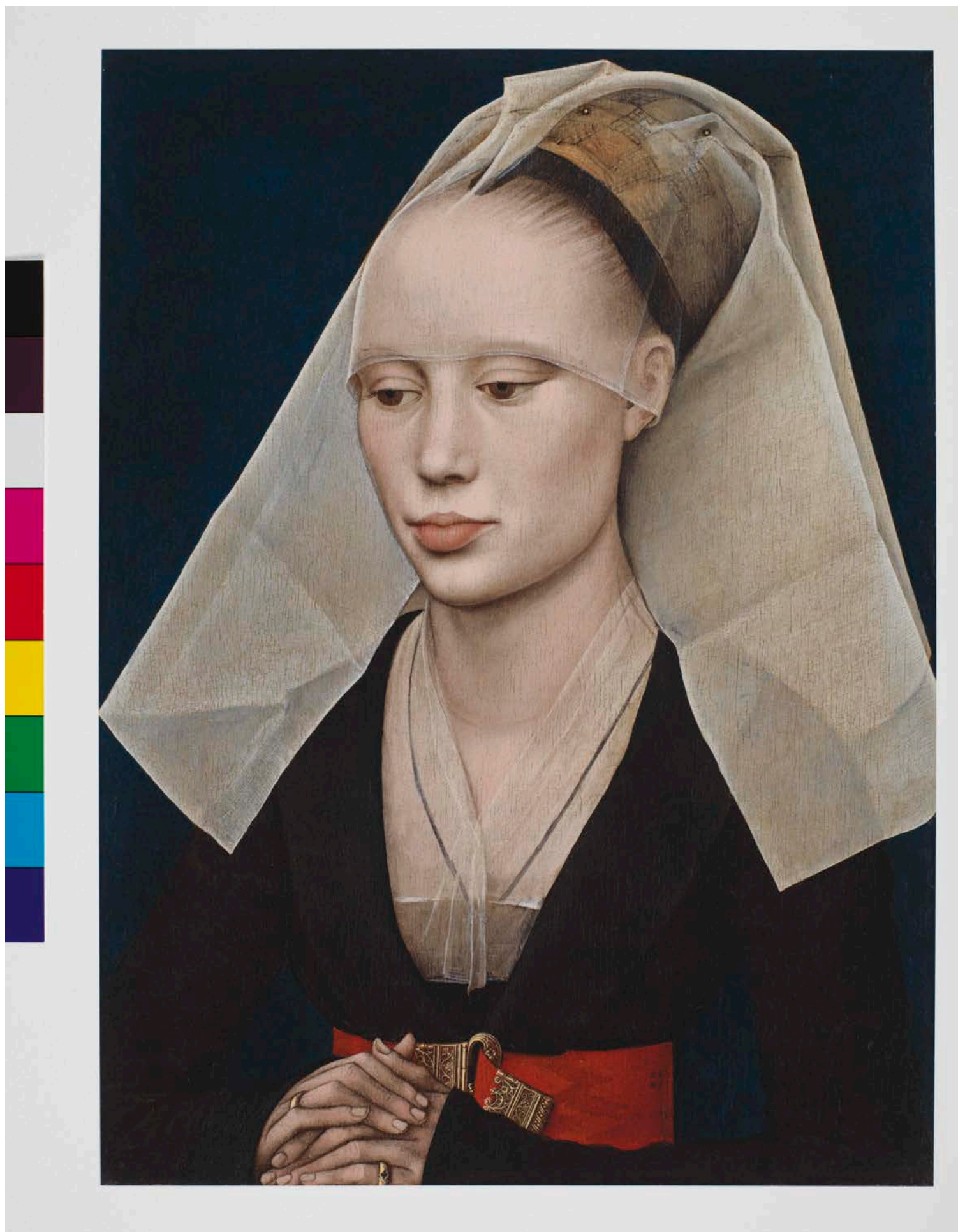
Museum of New Zealand
Te Papa Tongarewa

MA_I275781.5205x6763,
created 2012

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This digital surrogate is in the public domain

18

DIGITAL SURROGATE

A13790, unknown
RGB/jpg, 11.72MB, 11.73M
px
2932 x 4000 px; 9.806 x
13.378 in; 299 px/in

National Gallery of Art,
Washington, D.C., USA

MATERIAL SURROGATE

A13790, National Gallery of
Art, 299 px/in, 2016. Roger
van der Weyden (Nether-
landish, 1399/1400-1464),
Portrait of a Lady, c. 1460,
Oil on panel, 34 x 25.5 cm,
Andrew W. Mellon Collec-
tion, National Gallery of Art,
Washington, DC. Courtesy
National Gallery of Art,
Washington

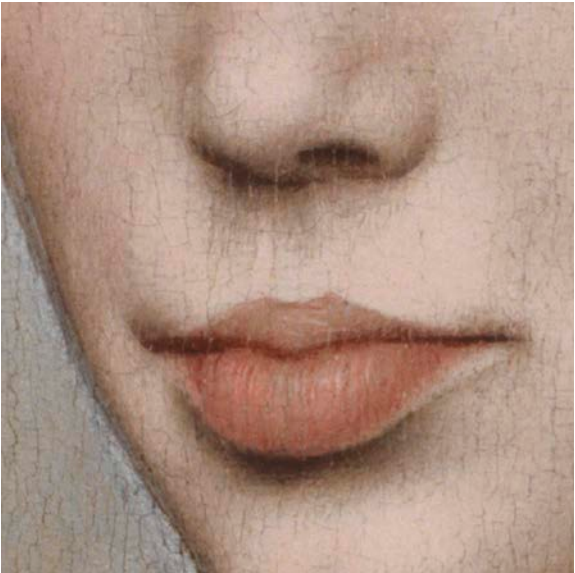
MATERIAL OBJECT

Portrait of a Lady, c. 1460

Roger van der Weyden,
1399/1400-1464
Oil on panel
34 x 25.5 cm

LICENCE INFORMATION

Public domain



National Gallery of Art

A13790, unknown

METADATA

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Rogier van der Weyden (Netherlandish, 1399/1400
- 1464), Portrait of a Lady, c. 1460, oil on panel, An-

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Xmp.photoshop.Credit image courtesy
National Gallery of Art
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Interchange Formats (JPG, JIF, JFIF)
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National Gallery of Art
Iptc.Application2.Caption Rogier van
der Weyden (Netherlandish, 1399/1400 - 1464),
Portrait of a Lady, c. 1460, oil on panel, Andrew W.
Mellon Collection
Iptc.Application2.RecordVersion 4





This digital surrogate is in the public domain

DIGITAL SURROGATE

A18640, unknown
RGB/jpg, 13.78MB, 12.35M
px
3088 x 4000 px; 40.632 x
52.632 in; 72 px/in

National Gallery of Art,
Washington, D.C., USA

MATERIAL SURROGATE

A18640, National Gallery of
Art, 120.237 px/in, 2016.
Rembrandt van Rijn (Dutch,
1606-1669), *Self-Portrait*,
1659, Oil on canvas, 84.5
x 66 cm, Andrew W. Mellon
Collection, National Gallery
of Art, Washington, DC.
Courtesy National Gallery of
Art, Washington

MATERIAL OBJECT

Self-Portrait, 1659

Rembrandt van Rijn,
1601-1669
Oil on canvas
84.5 x 66 cm

LICENCE INFORMATION

Public domain



National Gallery of Art

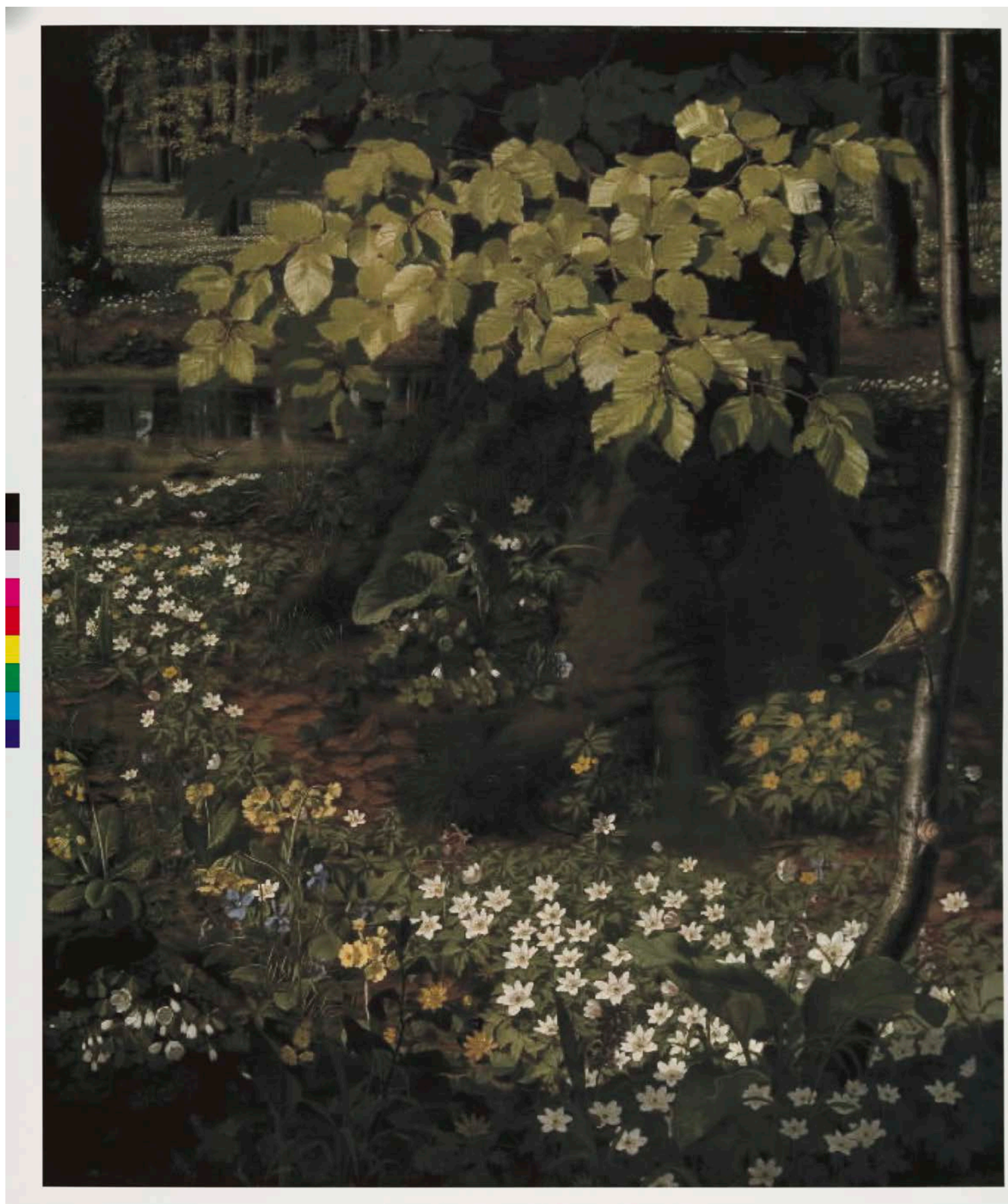
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METADATA

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Work images.nga.gov
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1659, oil on canvas, Andrew W. Mellon Collection
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National Gallery of Art
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Iptc.Application2.Caption Rembrandt van
Rijn (Dutch, 1606 - 1669), Self-Portrait, 1659, oil on
canvas, Andrew W. Mellon Collection
Iptc.Application2.RecordVersion 4





This digital surrogate is in the public domain

20

DIGITAL SURROGATE

img0020, unknown
RGB/jpg, 97.6KB, 502K px
654 x 768 px; 9.083 x
10.667; 17.782 px/in

National Gallery of Den-
mark – Statens Museum
for Kunst, Copenhagen,
Denmark

MATERIAL SURROGATE

img0020, National Gallery
of Denmark – Statens
Museum for Kunst, 17.782
px/in, 2016. O.D. Ottesen
(Danish, 1816-1892), Forår
i Charlottenlund Skov,
1862, Oil on canvas, 109.7
x 97.7 cm, 17.782 px/in,
National Gallery of Den-
mark – Statens Museum
for Kunst, Copenhagen;
Statens Museum for Kunst,
www.smk.dk

MATERIAL OBJECT

Forår i Charlottenlund Skov,
1862

O.D. Ottesen, 1816-1892
Oil on canvas
109.7 x 97.7 cm

LICENCE INFORMATION

Public domain



National Gallery of Denmark,
Statens Museum for Kunst

img0020, unknown

METADATA

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(1816-1892), Foraar i Charlottenlund Skov, 1862
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for Kunst
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This digital surrogate is in the public domain

DIGITAL SURROGATE

KKS10458_5, 2006
RGB/jpg, 14.38MB, 11.61M
px
2970 x 3908 px; 9.9 x
13.027 in; 300 px/in

National Gallery of Den-
mark – Statens Museum
for Kunst, Copenhagen,
Denmark

MATERIAL SURROGATE

KKS10458_5, National
Gallery of Denmark –
Statens Museum for Kunst,
367.641 px/in, 2016. Ubek-
endt kunstner (Unknown
artist), *Venus*, c. 1460, 27 x
18.3 cm, National Gallery of
Denmark – Statens Muse-
um for Kunst, Copenhagen;
Statens Museum for Kunst,
www.smk.dk

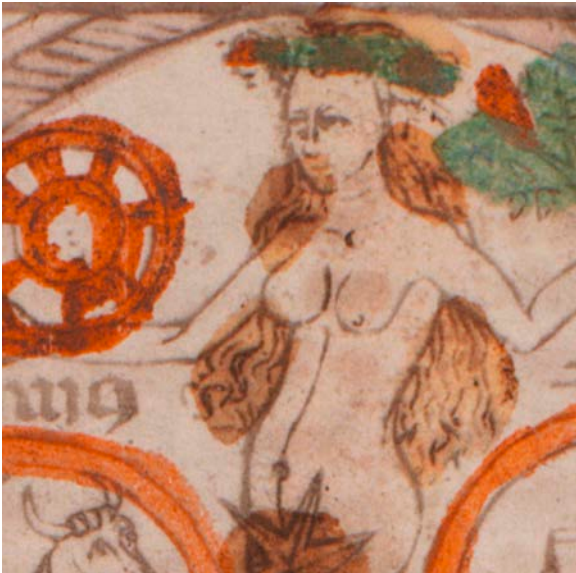
MATERIAL OBJECT

Venus, c. 1460

Ubekendt kunstner (Un-
known artist)
27 x 18.3 cm

LICENCE INFORMATION

Public domain



National Gallery of Denmark,
Statens Museum for Kunst

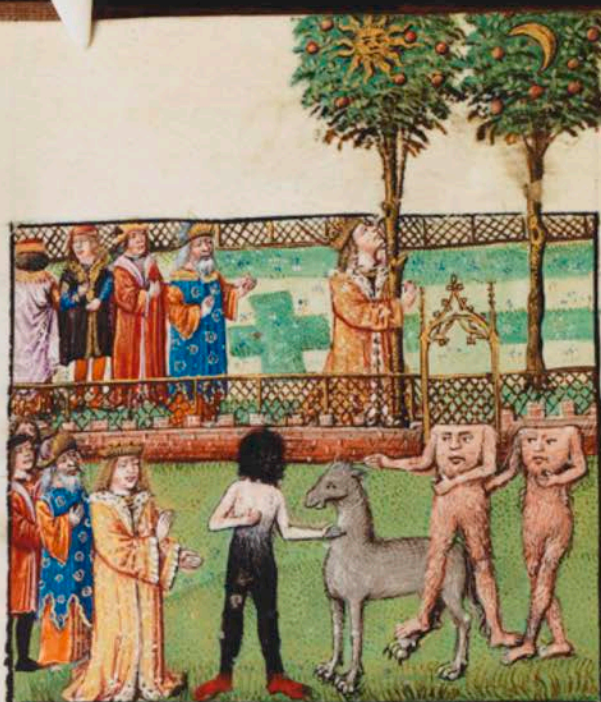
KKS10458_5, created 2006

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Arbor solis iudico sermone incipit loqui et greco
sermone finit. Arbor vero lune grece incipit loq
et iudice finit. Cunc alexander osculās arborē
ipās in corde suo cogitare cepit si triūphans reū
furus erat in macedoniā ad suos. Cunc subito
arbor solis rīdit iudico sermone dices. Sicut in
terrogasti alexander dñs eris orbis terrarū. sed
ad macedones nullomō redies neq; videbis co q
facta tua acc' fument de te. Deinde dixit arbor
lune alexander. Anno cōpleto viues et mensib;
otto. De quo confidis mortis tibi paula donati.
Cui alexander. Sic michi sacratissima arbor
quis me debet decipere. et arbor rīdit. Si dixero
tibi quis te decipere debet tu illū occideres et sic mu

22

DIGITAL SURROGATE

pei00176, unknown
RGB/jpg, 338KB, 710K px
747 x 950 px; 10.375 x
13.194 in; 72.008 px/in

National Library of Wales,
Aberystwyth, United
Kingdom



MATERIAL SURROGATE

pei00176, National Library
of Wales, 72.008 px/in,
2016. *Alexander and his
companions consult the
prophetic trees of the Sun
and the Moon; Alexander
meeting a black-legged
monster man, a horse-lion
and headless men (f. 84v.),
The Battles of Alexander
the Great*, 15th century,
Manuscript, 29.4 x 20.8 cm,
National Library of Wales,
Aberystwyth. Llyfrgell
Genedlaethol Cymru – The
National Library of Wales

MATERIAL OBJECT

*Alexander and his compan-
ions consult the prophetic
trees of the Sun and the
Moon; Alexander meeting a
black-legged monster man,
a horse-lion and headless
men (f. 84v.), The Battles
of Alexander the Great*,
15th century

Manuscript
29.4 x 20.8 cm

LICENCE INFORMATION

Public domain

National Library of Wales

pei00176, unknown

METADATA HIGHLIGHTS

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DIGITAL SURROGATE

SK-A-268-01, 2010
RGB/tif, 119.5MB, 39.8M px
5503 x 7232 px; 18.343 x
24.107 in; 300 px/in

Rijksmuseum,
Amsterdam, Netherlands

MATERIAL SURROGATE

SK-A-268-01, Rijksmu-
seum, 216.543 px/in,
2016. Abraham Mignon
(German, 1640-1679), *Still
Life with Flowers and a
Watch*, c. 1660 - c. 1679,
Oil on canvas, 75 x 60 cm,
Rijksmuseum, Amsterdam;
Rijksmuseum, Amsterdam

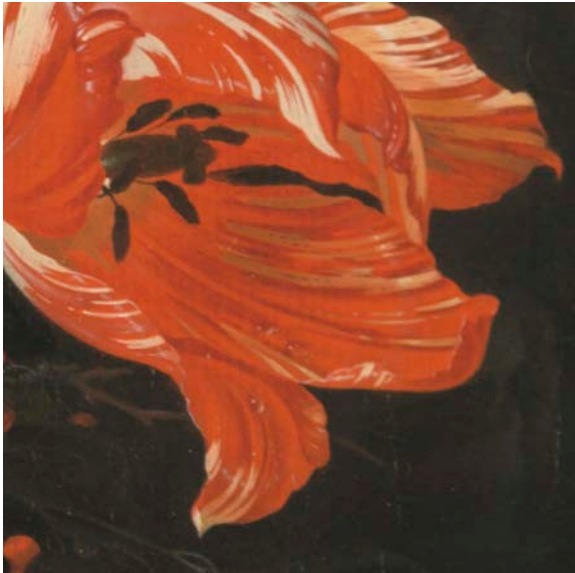
MATERIAL OBJECT

*Still Life with Flowers and a
Watch*, c. 1660 - c. 1679

Abraham Mignon,
1640-1679
Oil on canvas
75 x 60 cm

LICENCE INFORMATION

Open access



Rijksmuseum
SK-A-268-01, created 2010

METADATA HIGHLIGHTS

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PO BOX 74888
1070 DN Amsterdam,
the Netherlands
+31 206747000
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2010-08-31
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Amsterdam
PO BOX 74888
1070 DN Amsterdam,
the Netherlands
+31 206747000
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Iptc.Application2.Keywords Voorkeursbeeld
Iptc.Application2.DateCreated 2010-08-31



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25

DIGITAL SURROGATE

W669, unknown
RGB/pdf
601 x 864 px; 8.527 x 12 in;
300 px/in

The Walters Art Museum,
Baltimore, Maryland, USA

MATERIAL SURROGATE

W669, The Walters Art
Museum, 300 px/in, 2016.
Indian, *Album of Indian
Miniatures and Persian Cal-
ligraphy*, late 12th century
AH/AD 18th century-13th
century AH/AD 19th cen-
tury (Rajput), Manuscript,
ink and pigments on paper
covered with light brown
goatskin, 29.5 x 20.5 cm,
The Walters Art Museum,
Baltimore; The Walters Art
Museum

MATERIAL OBJECT

*Album of Indian Miniatures
and Persian Calligraphy*,
late 12th century AH/AD
18th century-13th century
AH/AD 19th century (Ra-
jput)

Indian
Manuscript, ink and pig-
ments on paper covered
with light brown goatskin
29.5 x 20.5cm

LICENCE INFORMATION

Public domain



The Walters Art Museum

W669, unknown

METADATA

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26

DIGITAL SURROGATE

cps_w624203b_fp_dd-2,
unknown
RGB/jpg, 327KB, 2.194M px
1219 x 1800 px; 4.063 x 6
in; 300 px/in

The Walters Art Museum,
Baltimore, Maryland, USA

MATERIAL SURROGATE

cps_w624203b_fp_dd-2,
The Walters Art Muse-
um, 152.4 px/in, 2016.
Attributed to Mukund,
*The Story of the Wrongly
Exiled Prince as Told by the
Princess of the Sandal-
wood Pavilion from the
Khamssa (Quintet) of Amir
Khusraw Dihlavi*, 1597-
1598 (Mughal), Manuscript,
opaque watercolor, ink, and
gold on paper, 28.5 x 19 cm,
The Walters Art Museum,
Baltimore

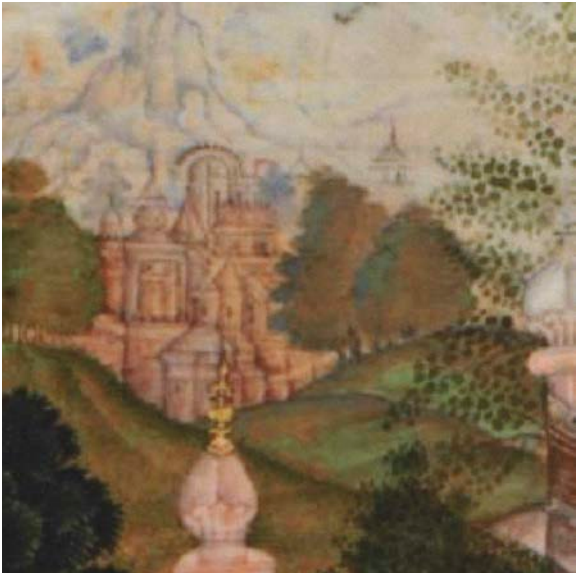
MATERIAL OBJECT

*The Story of the Wrongly
Exiled Prince as Told by the
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Khusraw Dihlavi*, 1597-
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Attributed to Mukund
Manuscript, opaque water-
color, ink, and gold on paper
28.5 x 19 cm

LICENCE INFORMATION

Public domain

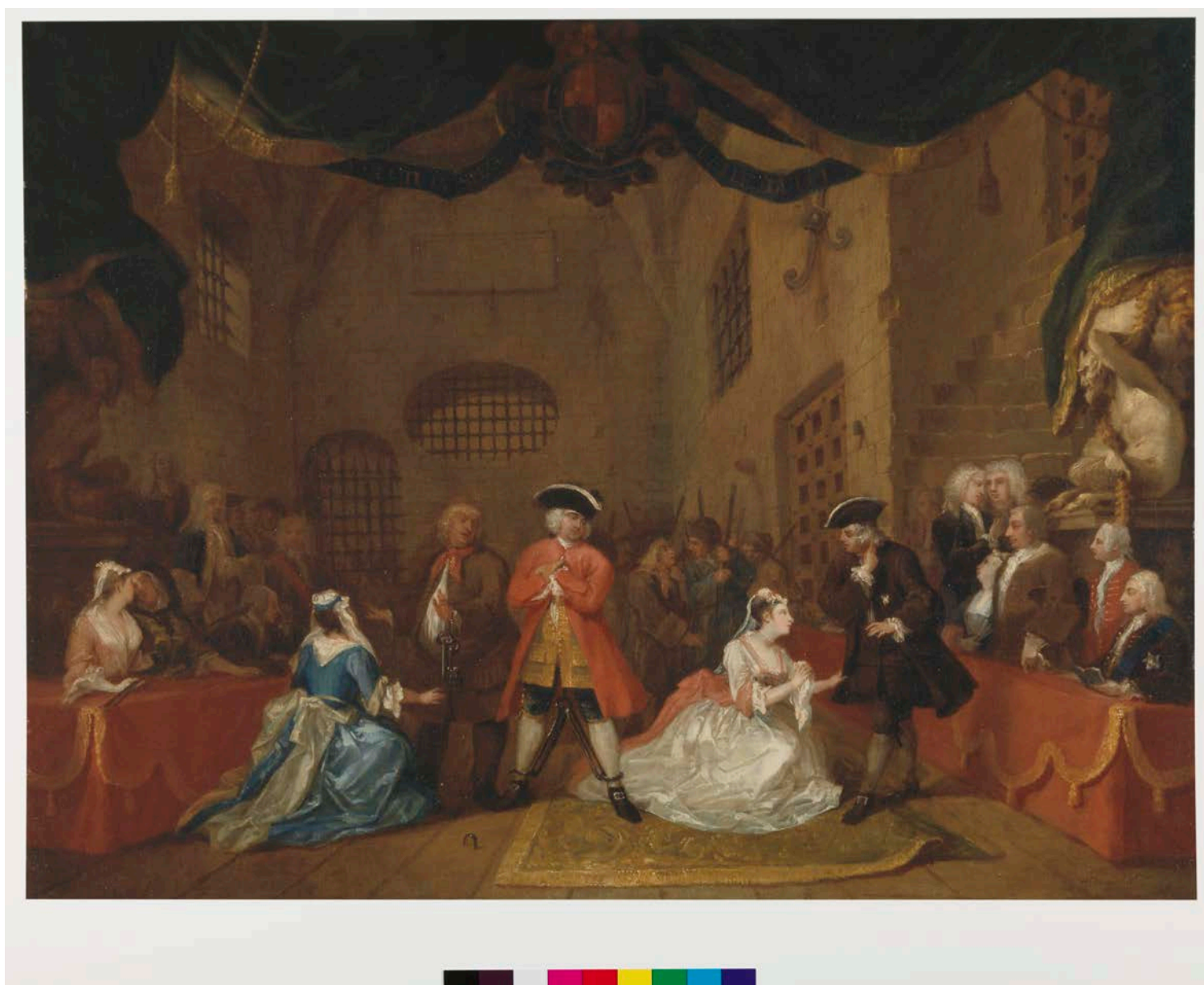


The Walters Art Museum

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'The Story of the Man Falsely Accused of Incest
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1597-1598. ink and pigments on laid, non-European
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This digital surrogate is in the public domain

27

DIGITAL SURROGATE

ba-obj-5033-0001-pub-print-lg, 2008
RGB/tif, 20.75MB, 6.903M
px
3000 x 2301 px; 10 x 7.67
in; 300 px/in

Yale Center for British Art,
New Haven, Connecticut,
USA

MATERIAL SURROGATE

ba-obj-5033-0001-pub-print-lg, Yale Center for
British Art, 100 px/in, 2016.
William Hogarth (British,
1697-1764), *The Beggar's
Opera*, 1729, Oil on canvas,
59.1 x 76.2 cm, Paul Mellon
Collection, Yale Center for
British Art, New Haven

MATERIAL OBJECT

The Beggar's Opera, 1729

William Hogarth, 1697-
1764
Oil on canvas
59.1 x 76.2 cm

LICENCE INFORMATION

Public domain



Yale Center for British Art

ba-obj-5033-0001-pubprint-lg,
created 2008

METADATA HIGHLIGHTS

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This digital surrogate is in the public domain

DIGITAL SURROGATE

ba-obj-52101-0001-pub-print-lg, 2010
RGB/tif, 24.4MB, 8.118M px
2706 x 3000 px; 9.02 x 10
in; 300 px/in

Yale Center for British Art,
New Haven, Connecticut,
USA

MATERIAL SURROGATE

ba-obj-52101-0001-pub-print-lg, Yale Center for
British Art, 461.818 px/in,
2016. Francesco Bartolozzi
RA, (Italian, 1728–1815),
active in Britain (from 1764
to 1799), *Ticket for the
Benefit of Mr. Giardini*,
1780, Etching and line en-
graving on medium, slightly
textured, cream laid paper,
11.4 x 9.5 cm, Paul Mellon
Collection, Yale Center for
British Art, New Haven

MATERIAL OBJECT

*Ticket for the Benefit of Mr.
Giardini*, 1780

Francesco Bartolozzi RA,
1728–1815
Etching and line engraving
on medium, slightly tex-
tured, cream laid paper
Sheet (cropped inside
plate): 5 3/4 x 5 1/8 inches
(14.6 x 13 cm) Image: 4
1/2 x 3 3/4 inches (11.4 x
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LICENCE INFORMATION

Public domain



Yale Center for British Art

ba-obj-52101-0001-pubprint-lg,
created 2010

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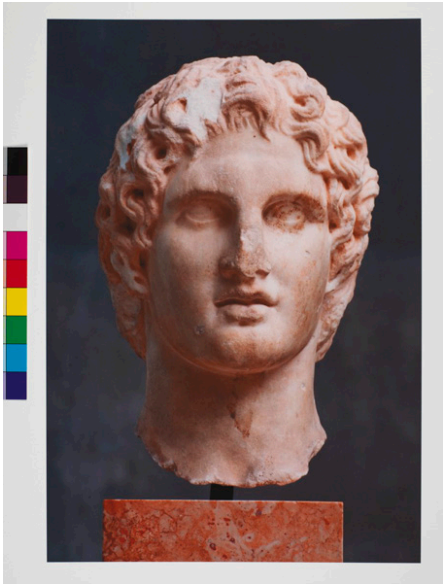
Part Two:

Low risk

Acropolis Museum ▪ Art Institute of Chicago ▪ British Museum ▪ Kyoto National Museum ▪ Metropolitan Museum of Art ▪ Museu Nacional d'Art de Catalunya ▪ Museu Nacional, UFRJ ▪ Museum of Fine Arts, Boston ▪ Museum of Modern Art ▪ Museum of New Zealand Te Papa Tongarewa ▪ National Archives of Australia ▪ National Gallery, London ▪ National Gallery of Canada ▪ National Gallery of Victoria ▪ National Library of Scotland ▪ National Museum of Art, Architecture and Design – Nasjonalmuseet Oslo ▪ Queensland Art Gallery, Gallery of Modern Art ▪ Staatliche Museen zu Berlin ▪ Tate, London

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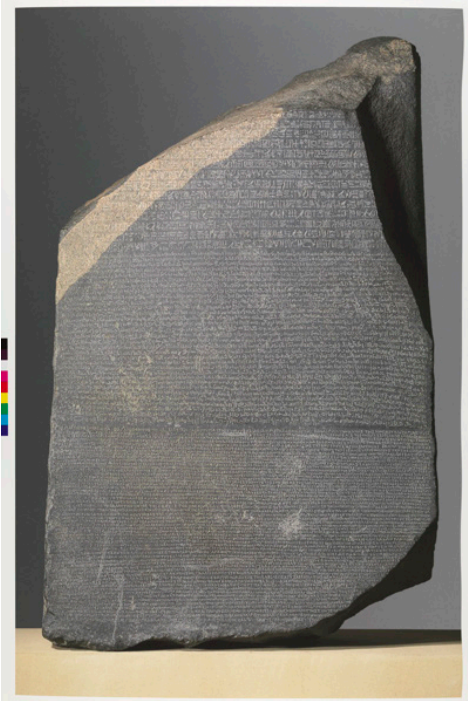
On left: cri_000000080756, The Museum of Modern Art, 50.484 px/in, 2016. Vincent van Gogh (Dutch, 1853-1890), Portrait of Joseph Roulin, 1889, Oil on canvas, 64.4 x 55.2 cm, The Museum of Modern Art, New York City. <http://www.moma.org>. This digital surrogate is © The Museum of Modern Art.



29



33



32



34



35



30



31



Low risk

- 29

65_1, 2010, 2010
Acropolis Museum
35 x 23 cm
- 30

57577_1871930, 2007
The Art Institute of Chicago
100.3 x 66.1 cm
- 31

50633_3942840, 2007
The Art Institute of Chicago
38 x 54.3 cm
- 32

16456004, unknown
The British Museum
127 x 78.74 cm
- 33

6754001, unknown
The British Museum
22.3 x 34.5 cm
- 34

44263, 2011
Kyoto National Museum
25.7 x 22.7 cm
- 35

DT63, unknown
The Metropolitan Museum of Art
51.4 x 67.3 cm



37



42



39



38



40



36



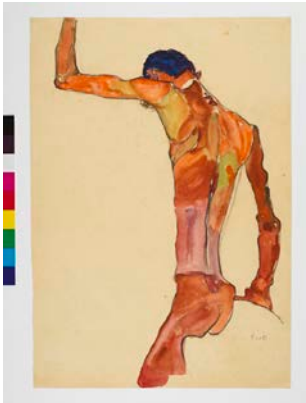
41



Low risk

- 36 DT4190, unknown
The Metropolitan Museum of Art
94 x 125.4 cm
- 37 DP358989, unknown
The Metropolitan Museum of Art
24.9 x 18.5 cm
- 38 010698-000, 2010
Museu Nacional d'Art de Catalunya
60.5 x 94.5 cm
- 39 065012-000, 2009
Museu Nacional d'Art de Catalunya
27.3 x 18 cm

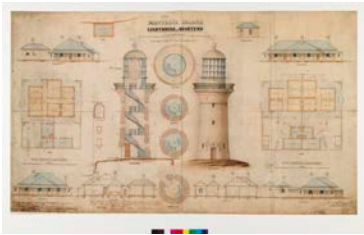
- 40 index_212814-000_thy001_0, 2009
Museu Nacional d'Art de Catalunya
47 x 29.1 cm
- 41 0026, unknown
Museu Nacional, UFRJ
32 x 47.72 cm
- 42 SC225367, unknown
Museum of Fine Arts, Boston
25.7 x 37.8 cm



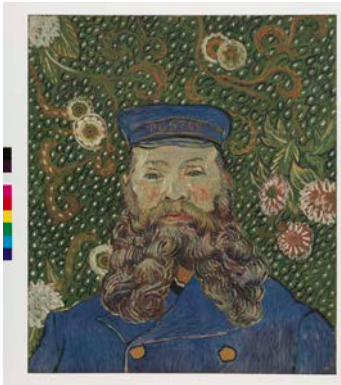
45



48



47



43



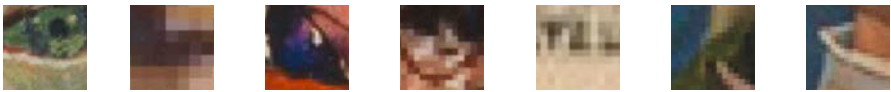
49



46



44



Low risk

- 43 cri_000000080756, unknown
The Museum of Modern Art
64.4 x 55.2 cm
- 44 cri_000000156123, unknown
The Museum of Modern Art
41 x 33 cm
- 45 cri_000000122016, unknown
The Museum of Modern Art
44.8 x 31.4 cm
- 46 640, year
Museum of New Zealand Te Papa Tongarewa
17.8 x 25.5 cm

- 47 ShowImage.aspx, 2008
National Archives of Australia
74.5 x 125 cm
- 48 N-0186-00-000118-wpu, 2005
The National Gallery
82.2 x 60 cm
- 49 N-0189-00-000058-wpu, 2009
The National Gallery
61.6 x 45.1 cm



51



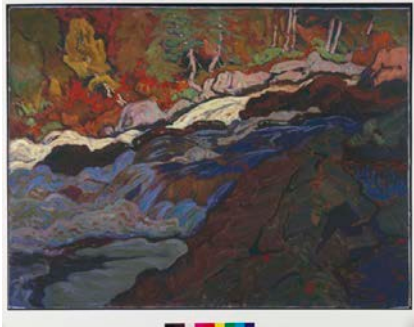
52



50



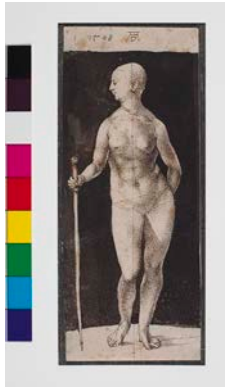
55



54



56



53



Low risk

- 50

N-6596-00-000009-wpu, 2015
The National Gallery
27.9 x 22.4 cm
- 51

imageserver, unknown
National Gallery of Canada
61.8 x 46.1 cm
- 52

imageserver, unknown
National Gallery of Canada
38.5 x 26.6 cm
- 53

imageserver, unknown
National Gallery of Canada
23.5 x 9.6 cm
- 54

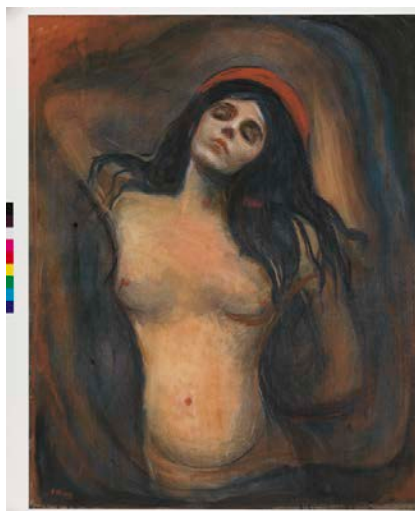
imageserver, unknown
National Gallery of Canada
71.9 x 91.9 cm
- 55

Ca100281, unknown
National Gallery of Victoria
17.4 x 26.9 cm
- 56

Ff106258, unknown
National Gallery of Victoria
17.4 x 26.9 cm



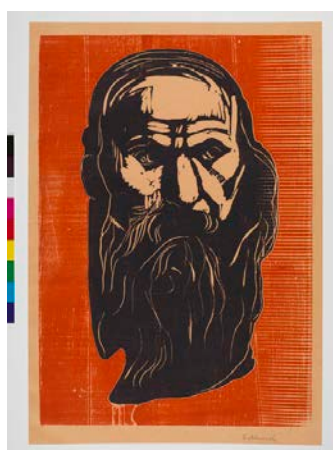
59



58



57



60



61



Low risk

- 57 102190159, 2104
National Library of Scotland
32 x 23 cm
- 58 NG.M.00841, 2008
National Museum of Art, Architecture
and Design – Nasjonalmuseet
90.5 x 70.5 cm
- 59 NG.K&H.A.18999, 2010
National Museum of Art, Architecture
and Design – Nasjonalmuseet
31.1 x 42.2 cm

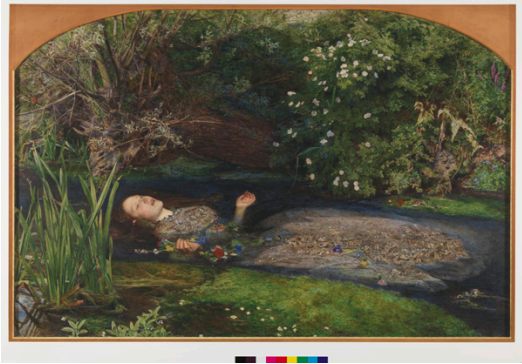
- 60 NG.K&H.A.19115, 2010
National Museum of Art, Architecture
and Design – Nasjonalmuseet
46 x 32.5 cm
- 61 1-0784.005, 2012
Queensland Art Gallery, Gallery of Modern Art
50.0 x 60.6 cm



67



66



65



63



64



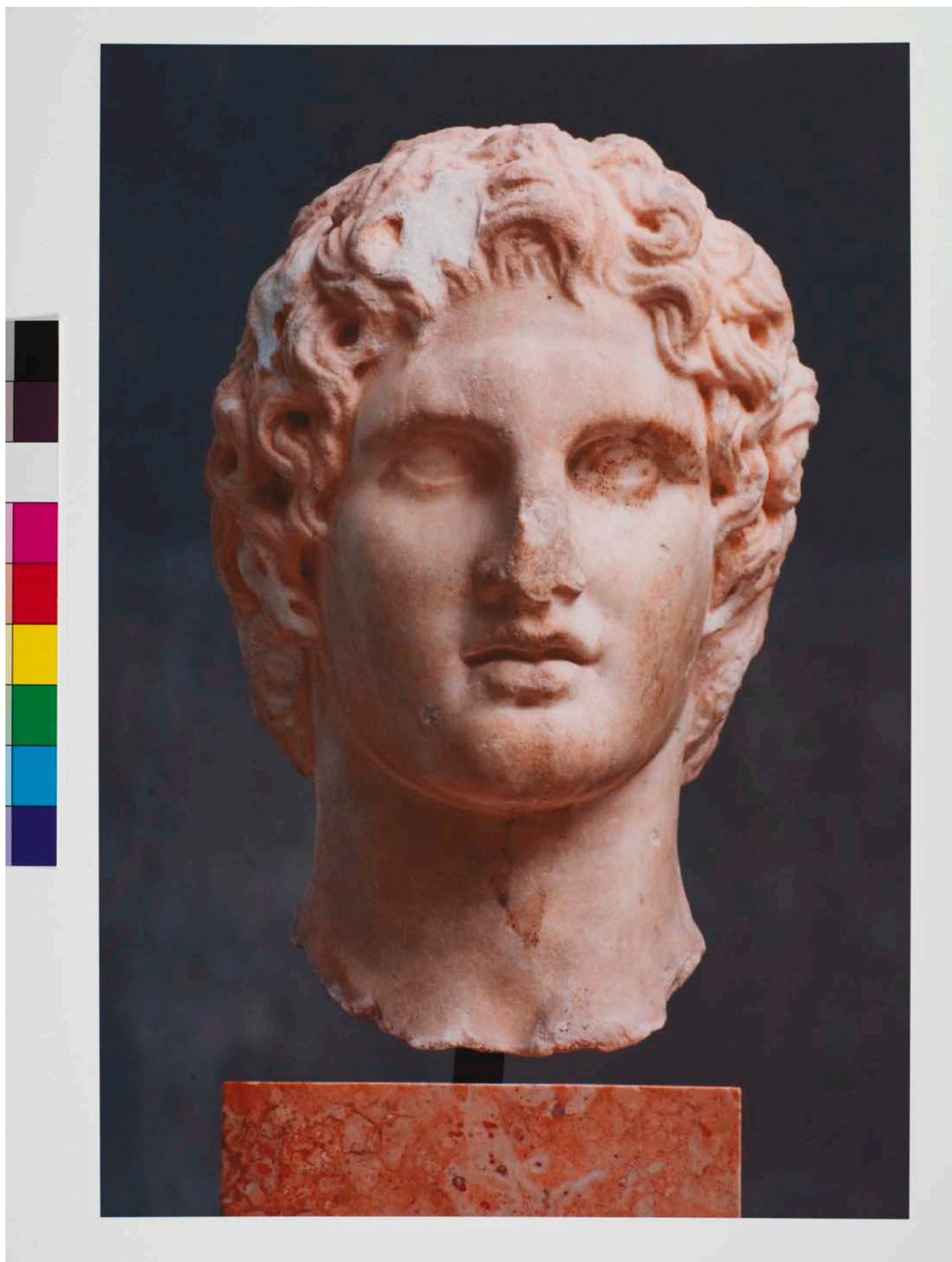
62



Low risk

- 62 eMuseumPlus, unknown
Staatliche Museen zu Berlin
19.9 x 23 cm
- 63 eMuseumPlus, unknown
Staatliche Museen zu Berlin
44.1 x 37 cm
- 64 eMuseumPlus, unknown
Staatliche Museen zu Berlin
56.1 x 47.40 cm

- 65 N01506_10, unknown
Tate
76.2 x 111.76 cm
- 66 T00648_10, 2007
Tate
30 x 27.9 cm
- 67 D36235_10, unknown
Tate
30 x 22.1 cm



This digital surrogate is © Acropolis Museum

29

DIGITAL SURROGATE

65_1, 2010
RGB/jpg, 102KB, 721K px
704 x 1024 px; 7.333 x
10.667 in; 96 px/in

Acropolis Museum,
Athina, Greece

MATERIAL SURROGATE

65_1, Acropolis Museum,
59.291 px/in, 2016. Most
likely a work of the sculptor
Leochares (Greek, d. 328
BC), *Portrait of Alexander the Great*, 340-330 BC,
35 x 23 cm, Acropolis Mu-
seum, Athina; <http://www.theacropolismuseum.gr/>

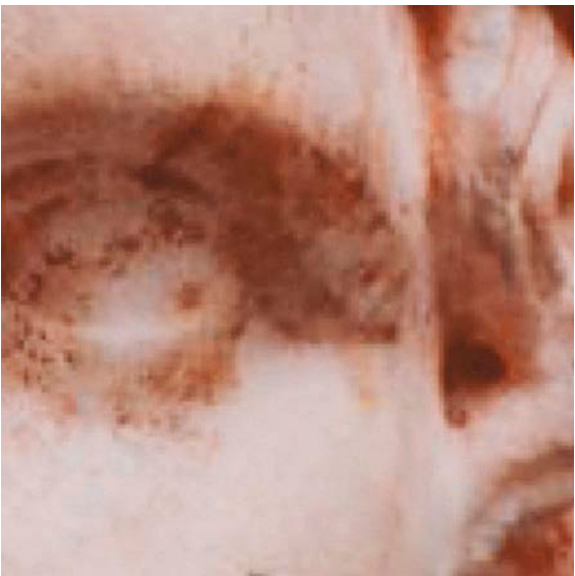
MATERIAL OBJECT

Portrait of Alexander the Great, 340-330 BC

Most likely a work of the
sculptor Leochares,
d. 328 BC
35 x 23 cm

LICENCE INFORMATION

Price available upon
request: photoarchive@theacropolismuseum.gr



Acropolis Museum

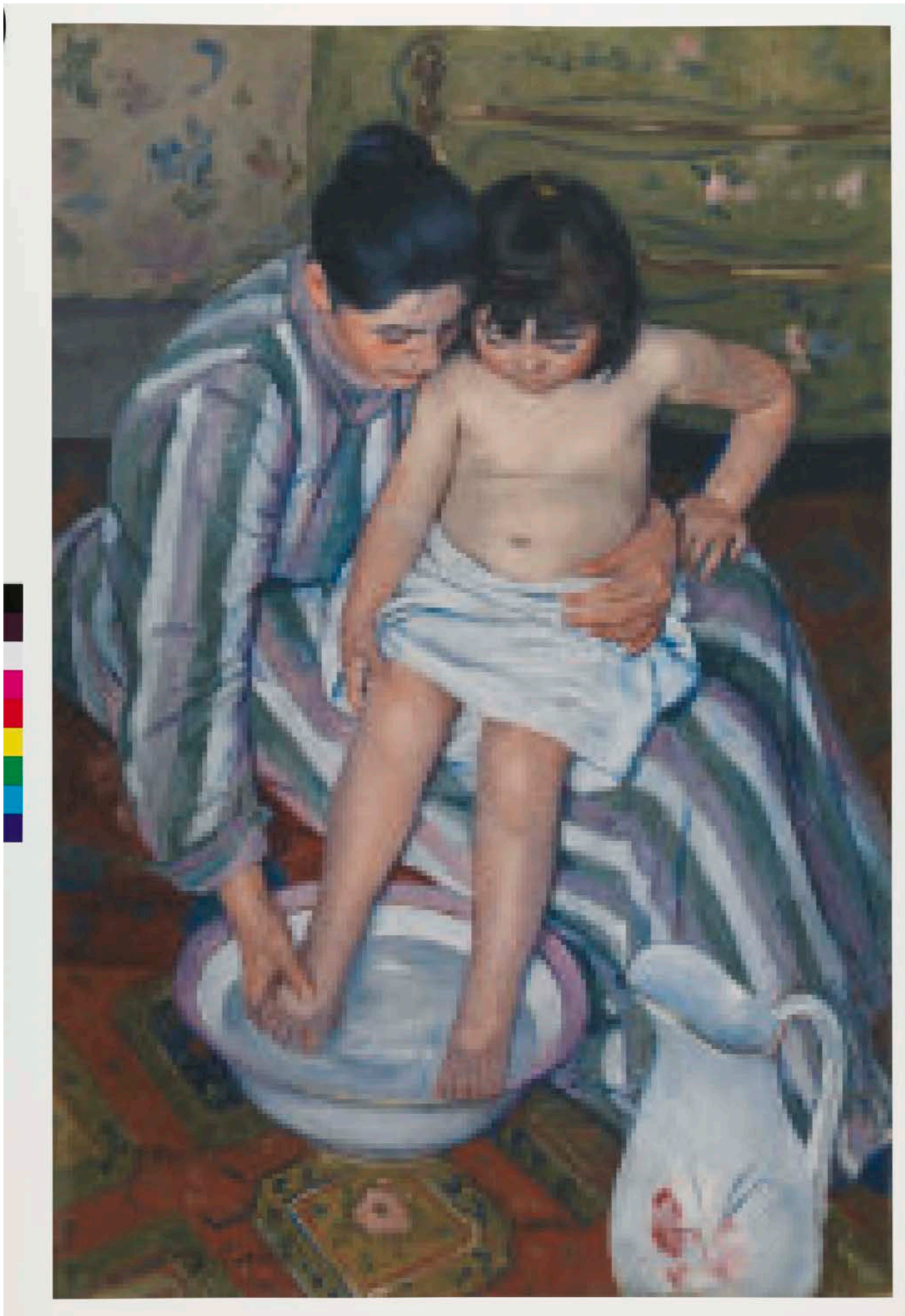
65_1, created 2010

METADATA HIGHLIGHTS

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Exif.Image.Make NIKON CORPORATION
Exif.Image.Model NIKON D3X
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71 28 2 0 0 2 0 0 28 2 55 0 8 50 48 49 48 49 48 48
52 28 2 60 0 6 49 50 51 50 48 56
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Exif.Photo.ExposureBiasValue 0 EV
Exif.Photo.MaxApertureValue F5.7
Exif.Photo.LightSource Unknown
Exif.Photo.Flash No flash
Exif.Photo.WhiteBalance Auto
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Xmp.tiff.model NIKON D3X
Xmp.tiff.software Adobe Photoshop
CS5 Macintosh
Xmp.tiff.Orientation top, left
Xmp.exif.DateTimeOriginal 2010:10:04
09:32:08





This digital surrogate is © The Art Institute of Chicago

30

DIGITAL SURROGATE

57577_1871930, 2007
RGB/jpg, 29.6KB, 3K px
168 x 256 px; 2.333 x
3.556 in; 72 px/in

The Art Institute of Chicago,
Chicago, Illinois, USA

MATERIAL SURROGATE

57577_1871930, The Art
Institute of Chicago, 6.483
px/in, 2016. Mary Cassatt
(American, 1844-1926),
The Child's Bath, 1893, Oil
on canvas, 100.3 x 66.1
cm, The Art Institute of
Chicago, Chicago

MATERIAL OBJECT

The Child's Bath, 1893

Mary Cassatt, 1844-1926
Oil on canvas
100.3 x 66.1 cm

LICENCE INFORMATION

Price available upon re-
quest: rights@artic.edu



The Art Institute of Chicago
57577_1871930, created 2007

METADATA HIGHLIGHTS

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Exif.Image.YResolution 72
Exif.Image.PlanarConfiguration 1
Exif.Image.ResolutionUnit inch
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This digital surrogate is © The Art Institute of Chicago

31

DIGITAL SURROGATE

50633_3942840, 2007
RGB/jpg, 177KB, 446Kpx
800 x 558 px; 11.111 x
7.75 in; 72 px/in

The Art Institute of Chicago,
Chicago, Illinois, USA

MATERIAL SURROGATE

50633_3942840, The
Art Institute of Chica-
go, 37.298 px/in, 2016.
Winslow Homer, 1836-
1910, *After the Hurricane,*
Bahamas, 1899, Transpar-
ent watercolor, with touch-
es of opaque watercolor,
rewetting, blotting and
scraping, over graphite, on
moderately thick, moder-
ately textured (twill texture
on verso), ivory wove paper,
38 x 54.3 cm, The Art Insti-
tute of Chicago, Chicago

MATERIAL OBJECT

After the Hurricane, Baha-
mas, 1899

Winslow Homer,
1836-1910
Transparent watercolor,
with touches of opaque wa-
tercolor, rewetting, blotting
and scraping, over graphite,
on moderately thick, moder-
ately textured (twill texture
on verso), ivory wove paper
38 x 54.3 cm

LICENCE INFORMATION

Price available upon re-
quest: rights@artic.edu

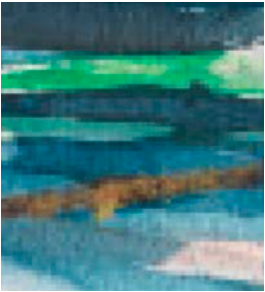


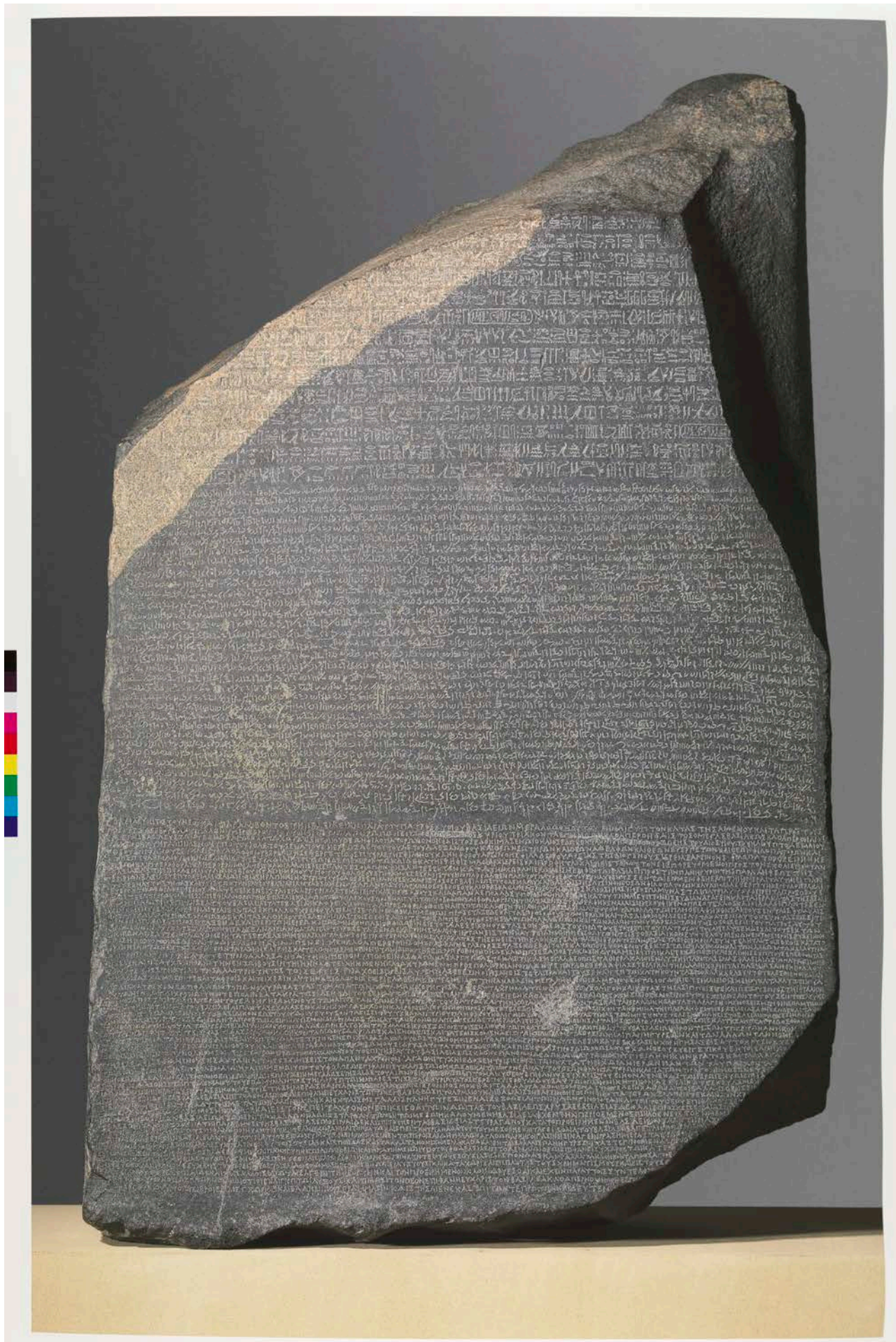
The Art Institute of Chicago
50633_3942840, created 2007

METADATA HIGHLIGHTS

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Iptc.Application2.DigitizationTime	16:02:25- 05:00





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32

DIGITAL SURROGATE

16456004, unknown
RGB/jpg, 1.016MB, 4.383M
px
1753 x 2500 px; 5.842 x
8.33 in; 300 px/in

The British Museum,
London, United Kingdom

MATERIAL SURROGATE

16456004, The British Museum, 44.399 px/in, 2016.
The Rosetta Stone, 196 BC, Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines), 127 x 78.74 cm, The British Museum, London

MATERIAL OBJECT

The Rosetta Stone, 196 BC

Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines)
127 x 78.74 cm

LICENCE INFORMATION

£738 via price calculator
for: (1) Media Type: Retail - Packaging and Productions;
(2) Use: Retail - Posters;
(3) Territory: World; (4)
Circulation: Up to 500; (5)
Duration: Up to 10 years;
(6) Start date: 01/03/2016



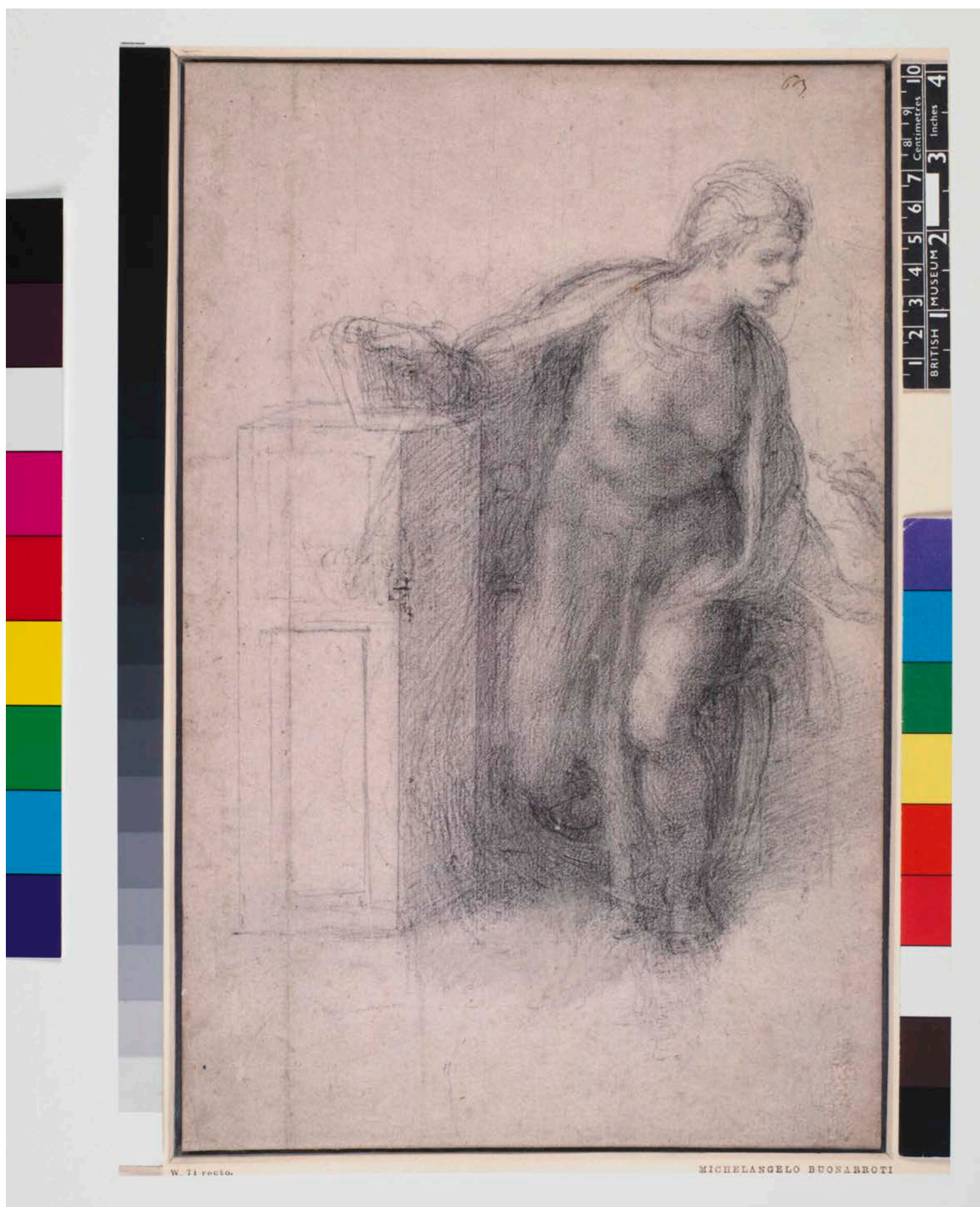
The British Museum

16456004, unknown

METADATA

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33

DIGITAL SURROGATE

6754001, unknown
RGB/jpg, 553KB, 4.593M px
1837 x 2500 px; 6.123 x
8.333 in; 300 px/in

The British Museum,
London, United Kingdom

MATERIAL SURROGATE

6754001, The British
Museum, 184.058 px/in,
2015. Michelangelo (Italian,
1475-1564), *The Virgin
Annunciate*, 1545-1546,
Black chalk on paper, 22.3 x
34.5 cm, The British Muse-
um, London

MATERIAL OBJECT

The Virgin Annunciate,
1545-1546

Michelangelo, 1475-1564
Black chalk on paper
22.3 x 34.5 cm

LICENCE INFORMATION

£738 via price calculator
for: (1) Media Type: Retail -
Packaging and Productions;
(2) Use: Retail - Posters;
(3) Territory: World; (4)
Circulation: Up to 500; (5)
Duration: Up to 10 years;
(6) Start date: 01/03/2016



The British Museum

6754001, unknown

METADATA

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Exif.Photo.PixelXDimension 1837
Exif.Photo.PixelYDimension 2500



This digital surrogate is © Kyoto National Museum

34

DIGITAL SURROGATE

44263, 2011
RGB/jpg, 134KB, 226K px
452 x 500 px; 0.452 x .05
in; 1000 px/in

Kyoto National Museum,
Kyoto, Japan

MATERIAL SURROGATE

44263, Kyoto National Museum, 50.576 px/in, 2016.
Tosa Mitsuyoshi (Japanese, 1539-1613), *Wakana Chapter (section Two) from The Take of Gengi*, 17th century, 25.7 x 22.7 cm, Kyoto National Museum, Kyoto

MATERIAL OBJECT

Wakana Chapter (section Two) from The Take of Gengi, 17th century

Tosa Mitsuyoshi, 1539-1613
25.7 x 22.7 cm

LICENCE INFORMATION

Price available upon request: <https://myknm.kyohaku.go.jp/eng/contact/>



Kyoto National Museum
44263, created 2011

METADATA

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Exif.Image.YResolution 1000
Exif.Image.PlanarConfiguration 1
Exif.Image.ResolutionUnit inch
Exif.Image.Software Adobe Photoshop
CS5 Windows
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17:08:46
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Exif.Photo.PixelYDimension 4595
Exif.Thumbnail.Compression JPEG (old-style)
Exif.Thumbnail.XResolution 72
Exif.Thumbnail.YResolution 72
Exif.Thumbnail.ResolutionUnit inch
Exif.Thumbnail.JPEGInterchangeFormat 390
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This digital surrogate is © The Metropolitan Museum of Art

35

DIGITAL SURROGATE

DT63, unknown
RGB/jpg, 3.244MB, 11.05M
px
3811 x 2899 px; 25.407 x
19.327 in; 150 px/in

The Metropolitan Museum
of Art, New York City, New
York, USA

MATERIAL SURROGATE

DT63, The Metropolitan
Museum of Art, 143.833
px/in, 2016. James Peale
(American, 1749-1831),
Still Life: Basalm Apple and
Vegetables, c. 1820s, Oil
on canvas, 51.4 x 67.3 cm,
The Metropolitan Museum
of Art, New York City; [www.
metmuseum.org](http://www.metmuseum.org)

MATERIAL OBJECT

Still Life: Basalm Apple and
Vegetables, c. 1820s

James Peale, 1749-1831
Oil on canvas
51.4 x 67.3 cm

LICENCE INFORMATION

Price available upon
request: [image.licensing@
metmuseum.org](mailto:image.licensing@metmuseum.org)

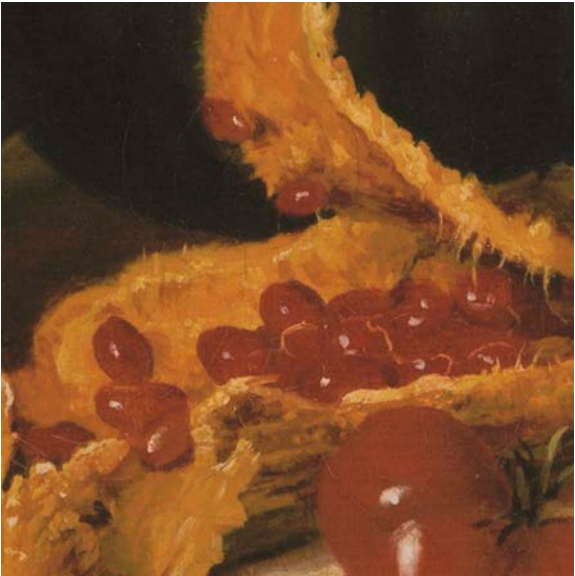


The Metropolitan
Museum of Art

DT63, unknown

METADATA

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This digital surrogate is © The Metropolitan Museum of Art

36

DIGITAL SURROGATE

DT4190, unknown
RGB/jpg, 2.351MB, 10.8M
px
3811 x 2833 px; 25.407 x
18.887 in; 150 px/in

*The Metropolitan Museum
of Art, New York City, New
York, USA*

MATERIAL SURROGATE

DT4190, The Metropolitan
Museum of Art, 77.193 px/
in, 2016. Michelangelo Mer-
isi da Caravaggio (Italian,
1571-1610), *The Denial
of Saint Peter*, c. 1610, Oil
on canvas, 94 x 125.4 cm,
The Metropolitan Museum
of Art, New York City; [www.
metmuseum.org](http://www.metmuseum.org)

MATERIAL OBJECT

The Denial of Saint Peter,
c. 1610

Michelangelo Merisi da
Caravaggio, 1571-1610
Oil on canvas
94 x 125.4 cm

LICENCE INFORMATION

*Price available upon
request: [image.licensing@
metmuseum.org](mailto:image.licensing@metmuseum.org)*



The Metropolitan
Museum of Art

DT4190, unknown

METADATA

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./36/DT4190.jpg: (No IPTC data found in the file)



This digital surrogate is © The Metropolitan Museum of Art

37

DIGITAL SURROGATE

DP358989, 2015
 RGB/jpg, 3.04MB, 11.01M
 px
 2878 x 3824 px; 19.187 x
 25.493 in; 150 px/in

*The Metropolitan Museum
 of Art, New York City, New
 York, USA*

MATERIAL SURROGATE

: DP358989, The Metro-
 politan Museum of Art,
 390.079 px/in, 2016.
 Circle of Lorenzo Monaco
 (Piero di Giovanni) (Italian,
 Florence (?) ca. 1370-1425
 Florence(?)), *Three Virtues
 (Temperance, Hope, and
 Fortitude or Justice) and
 Studies of a Seated Man*, c.
 1410, Metalpoint, touches
 of brush and brown wash,
 heightened with white
 (partially oxidized in the
 figure at the lower left),
 on reddish violet prepared
 paper, some lines retraced
 in pen and brown ink at a
 later date, 24.9 x 18.5 cm,
 The Metropolitan Museum
 of Art, New York City. [www.
 metmuseum.org](http://www.metmuseum.org)

MATERIAL OBJECT

*Three Virtues (Temperance,
 Hope, and Fortitude or
 Justice) and Studies of a
 Seated Man*, c. 1410

Circle of Lorenzo Monaco
 (Piero di Giovanni) (Italian,
 Florence (?) ca. 1370-1425
 Florence(?))

Metalpoint, touches of
 brush and brown wash,
 heightened with white (par-
 tially oxidized in the figure
 at the lower left), on reddish
 violet prepared paper. Some
 lines retraced in pen and
 brown ink at a later date.
 24.9 x 18.5 cm

LICENCE INFORMATION

Price available upon
 request: [image.licensing@
 metmuseum.org](mailto:image.licensing@metmuseum.org)



The Metropolitan Museum of Art

DP358989, created 2015

METADATA HIGHLIGHTS

./37/DP358989.jpg: (No Exif data found in the file)
 Xmp.dc.creator The Metropolitan
 Museum of Art
 Xmp.dc.description lang="x-default"
 Lorenzo Monaco (Piero di Giovanni) (Italian, Florence
 (?) ca. 1370-1425 Florence (?))
 Three Virtues (Temperance, Hope, and Fortitude or
 Justice) and Studies of a Seated Man, ca. 1420
 Italian, Florence,
 Metalpoint, touches of brush and brown wash,
 heightened with white (partially oxidized in the fig-
 ure at the lower left), on reddish violet prepared pa-
 per. Some lines retraced in pen and brown ink at a
 later date.; 9 13/16 x 7 5/16 in. (24.9 x 18.5 cm)
 The Metropolitan Museum of Art, New York, Robert
 Lehman Collection, 1975 (1975.1.335)
<http://www.metmuseum.org/Collections/>

[search-the-collections/459234](http://www.metmuseum.org/search-the-collections/459234)

Xmp.dc.format image/tiff
 Xmp.dc.title lang="x-default" Three Vir-
 tues (Temperance, Hope, and Fortitude or Justice)
 and Studies of a Seated Man
 Xmp.mmaObject.Culture Italian, Florence
 Xmp.mmaObject.Maker Circle of, Lorenzo
 Monaco (Piero di Giovanni), Italian, Florence (?) ca.
 1370-1425 Florence (?)
 Xmp.mmaObject.Name Drawing
 Xmp.mmaObject.ObjectMedium Metalpoint,
 touches of brush and brown wash, heightened with
 white (partially oxidized in the figure at the lower
 left), on reddish violet prepared paper. Some lines
 retraced in pen and brown ink at a later date.
 Xmp.mmaStudio.Photographer Bruce Schwarz
 Xmp.mmaStudio.PostProductionAgent Wilson
 Santiago
 Xmp.photoshop.Source Digital Image: The
 Metropolitan Museum of Art, New York; [http://www.
 metmuseum.org/information/terms-and-conditions](http://www.metmuseum.org/information/terms-and-conditions)
 Xmp.xmp.CreateDate 2015-07-29T15:35:58
 Xmp.xmpRights.WebStatement [http://www.
 metmuseum.org/information/terms-and-conditions](http://www.metmuseum.org/information/terms-and-conditions)
 Iltc.Application2.Source Digital Image: The
 Metropolitan Museum of Art, New York; [http://www.
 metmuseum.org/information/terms-and-conditions](http://www.metmuseum.org/information/terms-and-conditions)



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38

DIGITAL SURROGATE

010698-000, 2010
RGB/jpg, 1.505MB, 5.622M
px
3000 x 1874 px; 10 x 6.247
in; 300 px/in

Museu Nacional d'Art
de Catalunya,
Barcelona, Spain

MATERIAL SURROGATE

010698-000, Museu
Nacional d'Art de Catalu-
nya, 80.635 px/in, 2016.
Marià Fortuny (Catalan,
1838-1874), *The Spanish
Wedding*, 1868-1870,
Oil on wood, 60.5 x 94.5
cm, Museu Nacional d'Art
de Catalunya, Barcelona;
Website of the Museu Na-
cional d'Art de Catalunya of
Barcelona, www.museunacional.cat

MATERIAL OBJECT

The Spanish Wedding,
1868-1870

Marià Fortuny, 1838-1874
Oil on wood
60.5 x 94.5 cm

LICENCE INFORMATION

Price available upon
request: <http://www.museunacional.cat/en/contact>



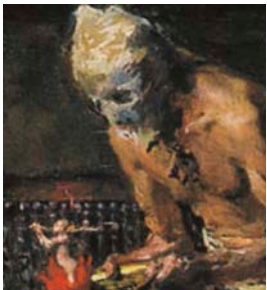
Museu Nacional d'Art
de Catalunya

010698-000, created 2010

METADATA HIGHLIGHTS

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Exif.Image.XResolution	300
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Exif.Image.ResolutionUnit	inch
Exif.Image.Software	Adobe Photoshop CS4 Macintosh
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Xmp.photoshop.ICCProfile	Adobe RGB (1998)
lptc.Application2.Caption	ÇVÄ





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39

DIGITAL SURROGATE

065012-000, 2009
RGB/jpg, 633KB, 4.914M px
1794 x 2739 px; 5.98 x
9.13 in; 300 px/in

Museu Nacional d'Art
de Catalunya,
Barcelona, Spain

MATERIAL SURROGATE

065012-000, Museu
Nacional d'Art de Catalu-
nya, 254.837 px/in, 2016.
Lucas Cranach (the Elder)
(German, 1472-1553), *The
Ill-Matched Couple*, 1517,
Oil on wood, 27.3 x 18
cm, Museu Nacional d'Art
de Catalunya, Barcelona.
Website of the Museu Na-
cional d'Art de Catalunya of
Barcelona, www.museunacional.cat

MATERIAL OBJECT

The Ill-Matched Couple,
1517

Lucas Cranach (the Elder),
1472-1553
Oil on wood
27.3 x 18 cm

LICENCE INFORMATION

Price available upon
request: <http://www.museunacional.cat/en/contact>



Museu Nacional d'Art
de Catalunya

065012-000, created 2009

METADATA HIGHLIGHTS

Exif.Image.ImageWidth	1897
Exif.Image.ImageLength	2848
Exif.Image.PhotometricInterpretation	CMYK
Exif.Image.ImageDescription	1435-CA04
Exif.Image.Make	HEIDELBERG PRE-PRESS
Exif.Image.Model	Scanner DC3000
Exif.Image.SamplesPerPixel	4
Exif.Image.XResolution	300
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Exif.Image.ResolutionUnit	inch
Exif.Image.Software	Adobe Photoshop CS3 Macintosh
Exif.Image.DateTime	2009:08:25 10:16:56
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Exif.Image.ExifTag	368
Exif.Photo.ColorSpace	Uncalibrated
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Xmp.iptc.CreatorContactInfo/Iptc4xmpCore:-CiAdrExtadr	PALAU NACIONAL MONTJUIC
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Iptc.Application2.RecordVersion	2
Iptc.Application2.Byline	JORDI CALVERAS
Iptc.Application2.BylineTitle	FOTOGRAF
Iptc.Application2.Copyright	MNAC
Iptc.Application2.Caption	1435-CA04





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40

DIGITAL SURROGATE

index_212814-000_thy001_0, 2009
RGB/jpg, 49.5KB, 243K px
1600 x 1107 px; 22.222 x
15.375 in; 72 px/in

Museu Nacional d'Art
de Catalunya,
Barcelona, Spain

MATERIAL SURROGATE

index_212814-000_thy001_0, Museu Nacional
d'Art de Catalunya, 32.426
px/in, 2016. Filippo Maz-
zola (Italian, 1460-1505),
*Portrait of Alessandro
de Richao*, c. 1491, Oil on
wood, 47 x 29.1 cm, Museu
Nacional d'Art de Catalunya,
Barcelona. Website of the
Museu Nacional d'Art de
Catalunya of Barcelona,
www.museunacional.cat

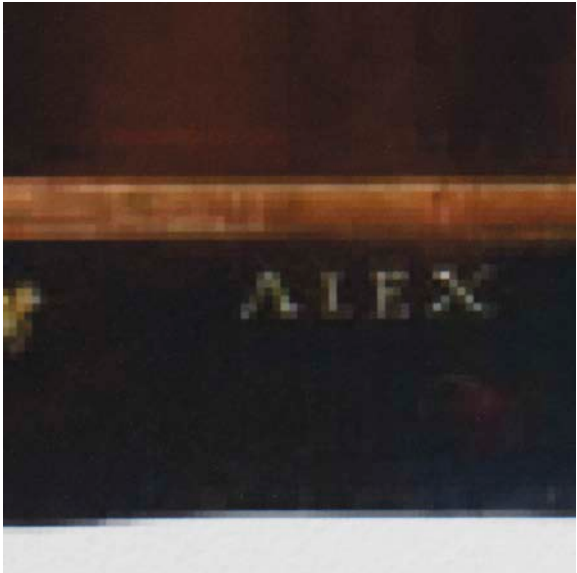
MATERIAL OBJECT

*Portrait of Alessandro de
Richao*, c. 1491

Filippo Mazzola, 1460-1505
Oil on wood
47 x 29.1 cm

LICENCE INFORMATION

Price available upon
request: [http://www.
museunacional.cat/en/
contact](http://www.museunacional.cat/en/contact)



Museu Nacional d'Art
de Catalunya

index_212814-000_thy001_0,
created 2009

METADATA HIGHLIGHTS

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Exif.Image.ImageLength	2919
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Exif.Image.PhotometricInterpretation	RGB
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Exif.Image.Make	HEIDELBERG PRE- PRESS
Exif.Image.Model	Scanner DC3000
Exif.Image.SamplesPerPixel	3
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Exif.Image.YResolution	300
Exif.Image.PlanarConfiguration	1
Exif.Image.ResolutionUnit	inch

Exif.Image.Software	Adobe Photoshop
CS4 Windows	
Exif.Image.DateTime	2009:12:10 12:20:32
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Exif.Photo.PixelYDimension	600
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Xmp.tiff.ImageLength	2919
Xmp.tiff.XResolution	300
Xmp.tiff.YResolution	300
Xmp.tiff.ResolutionUnit	inch
Xmp.tiff.NativeDigest	256,257,258,259 ,262,274,277,284,530,531,282,283,296,301,31 8,319,529,532,306,270,271,272,305,315,33432; D003F28F9AB365B8FD1F8F5626002465
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Xmp.photoshop.ICCProfile	Adobe RGB (1998)
lptc.Application2.Caption	256THYSSEN- II 10.



41

DIGITAL SURROGATE

0026, unknown
RGB/pdf, 373KB, 1.771M px
907 x 1353 px; 12.6 x
18.793 in; 300 px/in

Museu Nacional, UFRJ,
Rio de Janeiro, Brazil



MATERIAL SURROGATE

0026, Museu Nacional,
URFJ, 300 px/in, 2016.
John Gould (English, 1804-
1881), *A monograph of the
Trogonidae, or family of
trogons*, 1838, Print, 32 x
47.72 cm, Museu Nacional,
URFJ, Rio de Janeiro

MATERIAL OBJECT

*A monograph of the
Trogonidae, or family of
trogons*, 1838

John Gould, 1804-1881
Print
32 x 47.72 cm

LICENCE INFORMATION

Price available upon re-
quest: mnbib@acd.ufrj.br

Museu Nacional, URFJ

0026, unknown

METADATA

./41/0026.pdf: (No Exif data found in the file)
./41/0026.pdf: (No XMP data found in the file)
./41/0026.pdf: (No IPTC data found in the file)





This digital surrogate is © Museum of Fine Arts, Boston

42

DIGITAL SURROGATE

SC225367, unknown
RGB/jpg, 625KB, 1.386M px
1600 x 1107 px; 22.222 x
15.375 in; 72 px/in

Museum of Fine Arts,
Boston, Boston, Massachu-
setts, USA

MATERIAL SURROGATE

SC225367, Museum of
Fine Arts, Boston, 107.513
px/in, 2016. Katsushika
Hokusai (Japanese, 1760-
1849), *Under the Wave off
Kanagawa* (Kanagawa-oki
name-ura), also known as
the Great Wave, 1830-
1831, Woodblock print
(nishiki-e), ink and color on
paper, 25.7 x 37.8 cm, Mu-
seum of Fine Arts, Boston;
mfaimages@mfa.org

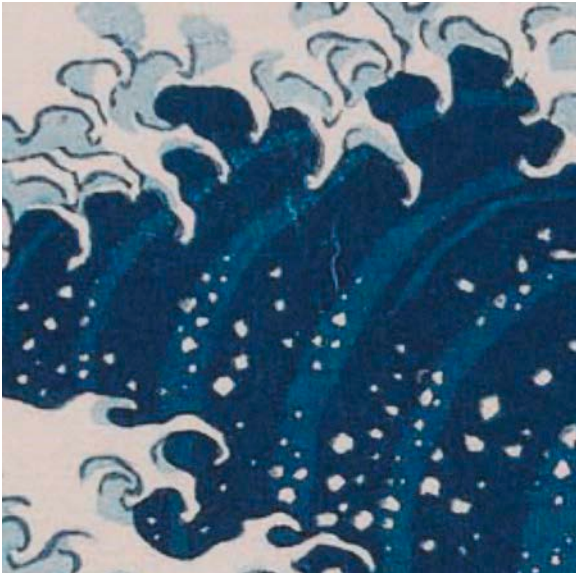
MATERIAL OBJECT

*Under the Wave off
Kanagawa* (Kanagawa-oki
name-ura), also known as
the Great Wave, 1830-
1831

Katsushika Hokusai,
1760-1849
Woodblock print (nishiki-e);
ink and color on paper
25.7 x 37.8 cm

LICENCE INFORMATION

Price available upon
request: mfaimages@mfa.
org



Museum of Fine Arts, Boston

SC225367, unknown

METADATA

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./42/SC225367.jpg: (No XMP data found in the file)
./42/SC225367.jpg: (No IPTC data found in the file)





This digital surrogate is © The Museum of Modern Art

43

DIGITAL SURROGATE

cri_000000080756,
unknown
RGB/jpg, 625KB, 1.386M px
1083 x 1280 px; 3.61 x
4.267 in; 300 px/in

The Museum of Modern Art,
New York City, New York,
USA

MATERIAL SURROGATE

cri_000000080756,
The Museum of Modern
Art, 50.484 px/in, 2016.
Vincent van Gogh (Dutch,
1853-1890), *Portrait of
Joseph Roulin*, 1889, Oil
on canvas, 64.4 x 55.2 cm,
The Museum of Modern Art,
New York City; [http://www.
moma.org](http://www.moma.org)

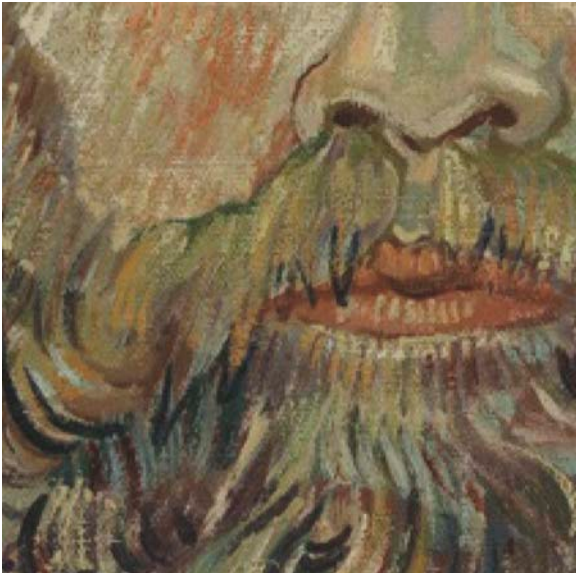
MATERIAL OBJECT

Portrait of Joseph Roulin,
1889

Vincent van Gogh,
1853-1890
Oil on canvas
64.4 x 55.2 cm

LICENCE INFORMATION

Price available upon
request: [requests@artres.
com](mailto:requests@artres.com)

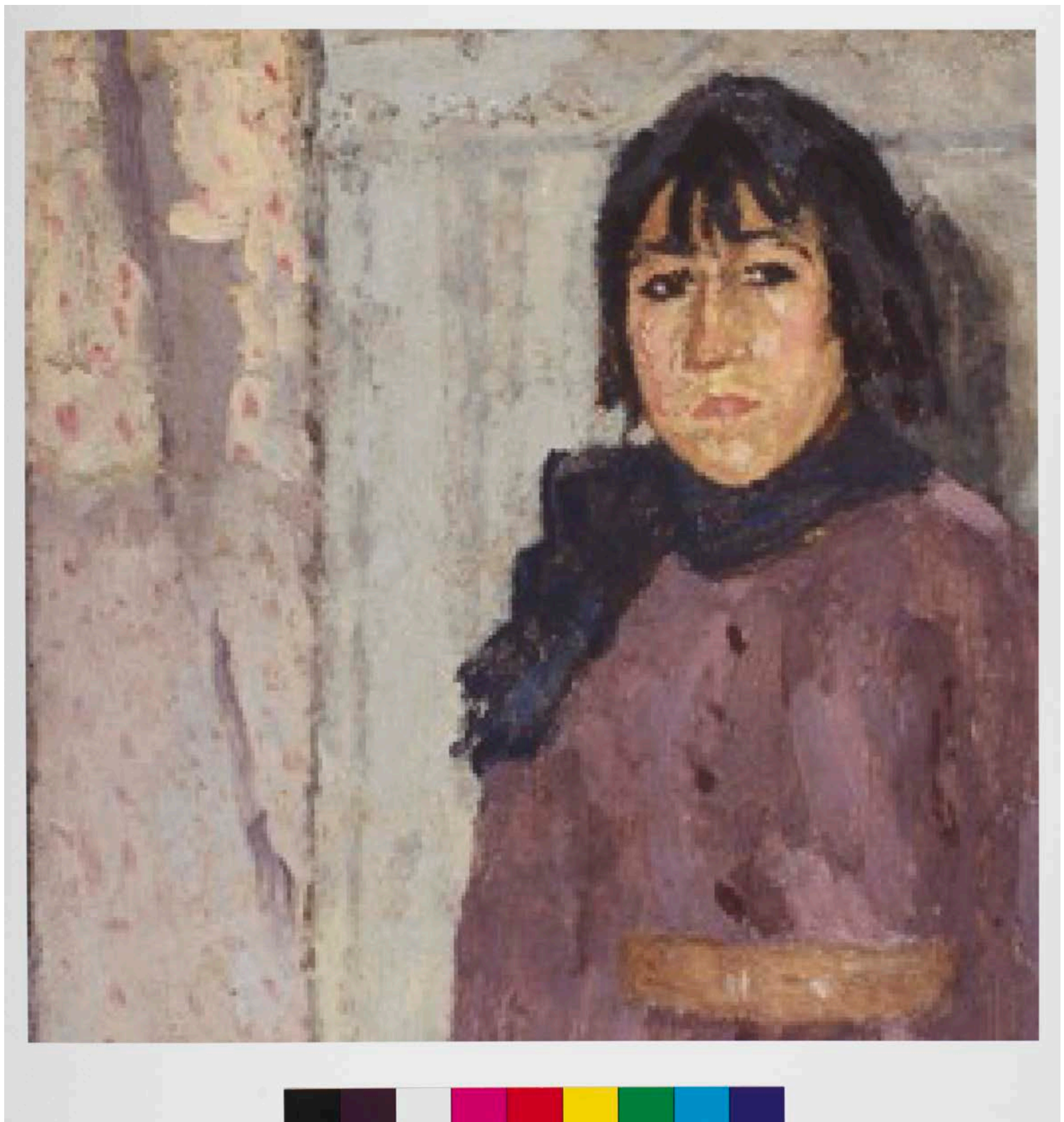


The Museum of Modern Art

cri_000000080756, unknown

METADATA

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./43/cri_000000080756.jpg: (No XMP data found in the file)
./43/cri_000000080756.jpg: (No IPTC data found in the file)



This digital surrogate is © The Museum of Modern Art

44

DIGITAL SURROGATE

cri_000000156123,
unknown
RGB/jpg, 21.1KB, 65.5K px
256 x 256 px; 2.56 x 2.56
in; 100 px/in

The Museum of Modern Art,
New York City, New York,
USA

MATERIAL SURROGATE

cri_000000156123, The
Museum of Modern Art,
15.86 px/in, 2016. Gwen
John (Welsh, 1876-1939),
Girl with a Blue Scarf, c.
1915-1920, Oil on canvas,
41 x 33 cm, The Museum of
Modern Art, New York City;
<http://www.moma.org>.

MATERIAL OBJECT

Girl with a Blue Scarf,
c. 1915-1920

Gwen John, 1876-1939
Oil on canvas
41 x 33 cm

LICENCE INFORMATION

Price available upon
request: requests@artres.com

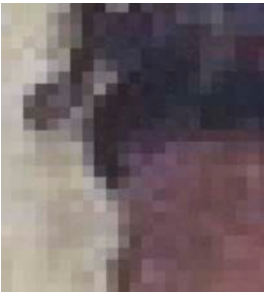


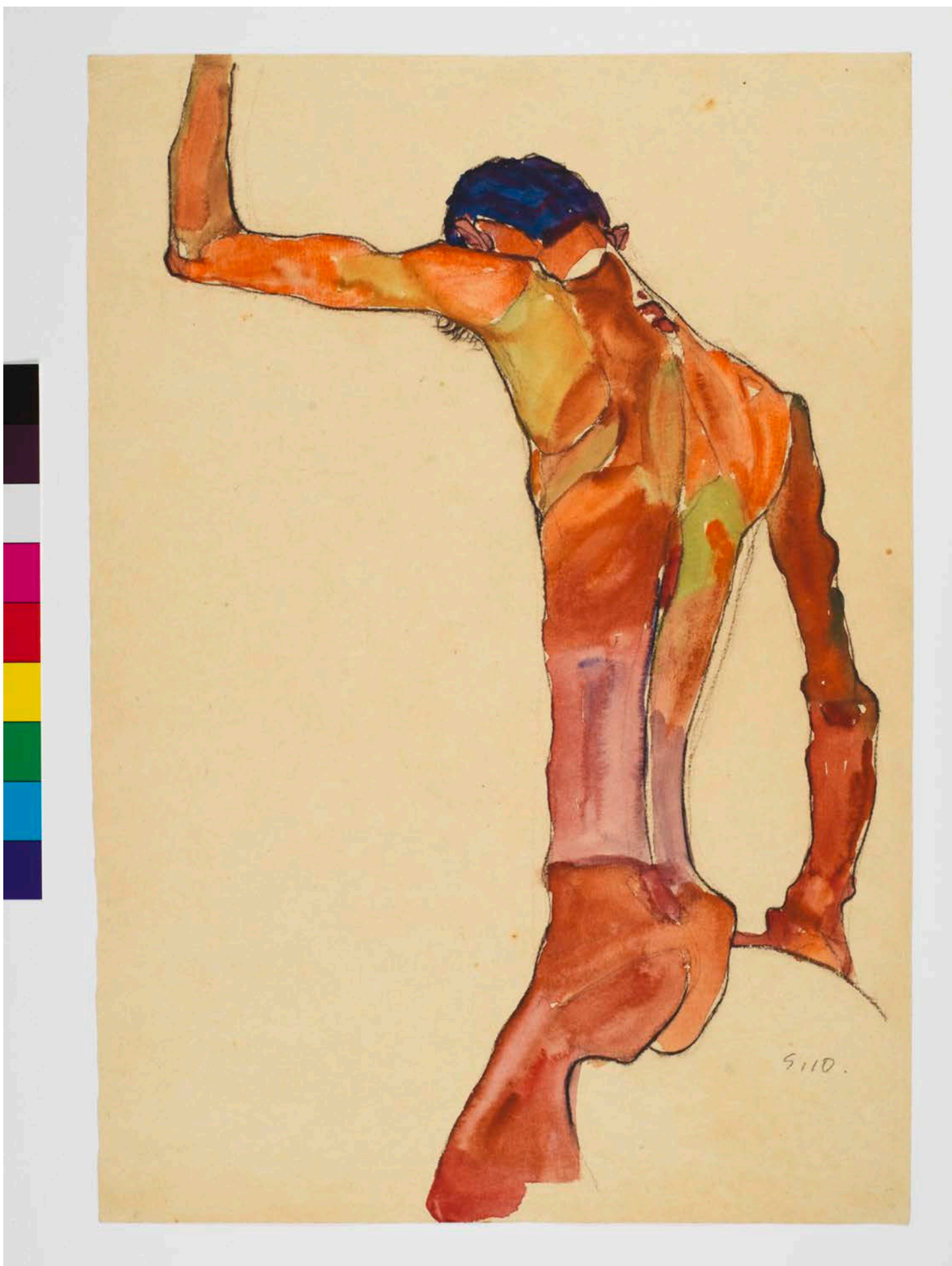
The Museum of Modern Art

cri_000000156123, unknown

METADATA

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45

DIGITAL SURROGATE

cri_000000122016,
unknown
RGB/jpg, 256KB, 1.148M px
897 x 1280 px; 2.99 x
4.267 in; 300 px/in

The Museum of Modern Art,
New York City, New York,
USA

MATERIAL SURROGATE

cri_000000122016, The
Museum of Modern Art,
72.571 px/in, 2016. Egon
Schiele (Austrian, 1890-
1918), *Standing Male Nude
with Arm Raised, Back
View*, 1910, Watercolor and
charcoal on paper, 44.8 x
31.4 cm, The Museum of
Modern Art, New York City;
<http://www.moma.org>

MATERIAL OBJECT

*Standing Male Nude with
Arm Raised, Back View*,
1910

Egon Schiele, 1890-1918
Watercolor and charcoal on
paper
44.8 x 31.4 cm

LICENCE INFORMATION

Price available upon
request: requests@artres.com



The Museum of Modern Art

cri_000000122016, unknown

METADATA

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./45/cri_000000122016.jpg: (No IPTC data found in the file)



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46

DIGITAL SURROGATE

640, 2008
RGB/jpg, 75.8KB, 281K px
640 x 439 px; 2.133 x
1.463 in; 300 px/in

Museum of New Zealand
Te Papa Tongarewa,
Wellington, New Zealand

MATERIAL SURROGATE

640, Museum of New Zealand Te Papa Tongarewa, 63.749 px/in, 2016. Horatio Gordon Robley (British, 1840-1930), *Breach at Gate Pa, morning of April 30, 1864*, Ink, pencil, and watercolor, 17.8 x 25.5 cm, Museum of New Zealand Te Papa Tongarewa, Wellington

MATERIAL OBJECT

Breach at Gate Pa, morning of April 30, 1864

Horatio Gordon Robley, 1840-1930
Ink, pencil, and watercolor
17.8 x 25.5 cm

LICENCE INFORMATION

Price available upon request: mediasalesandlicensing@tepapa.govt.nz

Email reply: "World Exhibition rights are \$100NZD. Single territory rights are\$50NZD." For "Exhibition Use" and "Public use in multiple countries."



Museum of New Zealand
Te Papa Tongarewa

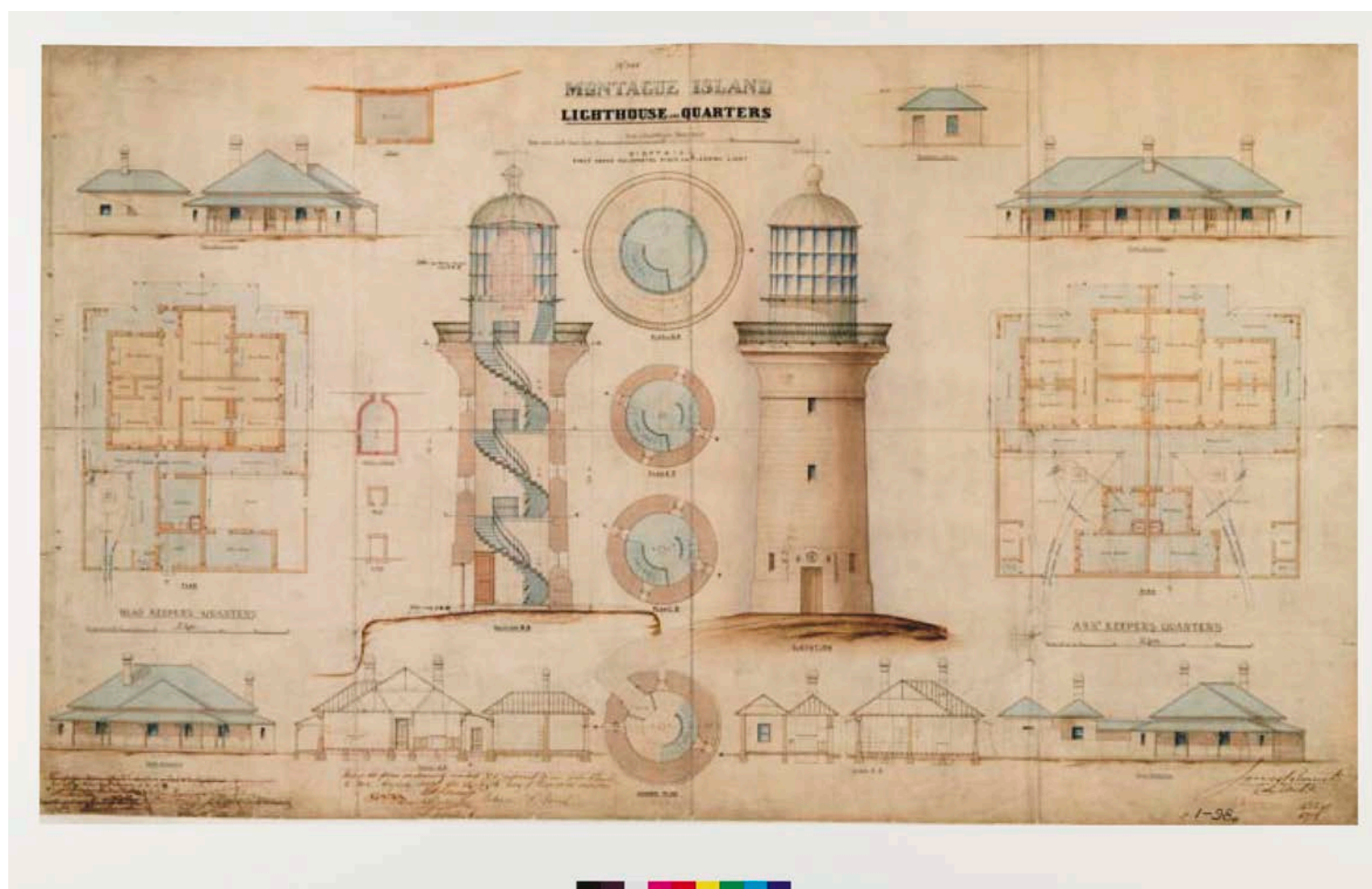
640, created 2008

METADATA

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Exif.Image.PhotometricInterpretation RGB
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Exif.Image.SamplesPerPixel 3

Exif.Image.XResolution 300
Exif.Image.YResolution 300
Exif.Image.PlanarConfiguration 1
Exif.Image.ResolutionUnit inch
Exif.Image.Software Adobe Photoshop CS3 Macintosh
Exif.Image.DateTime 2008:10:24 14:38:29
Exif.Image.ExifTag 296
Exif.Photo.ColorSpace Uncalibrated
Exif.Photo.PixelXDimension 5052
Exif.Photo.PixelYDimension 3468
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Exif.Thumbnail.XResolution 72
Exif.Thumbnail.YResolution 72
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Exif.Thumbnail.JPEGInterchangeFormat 434
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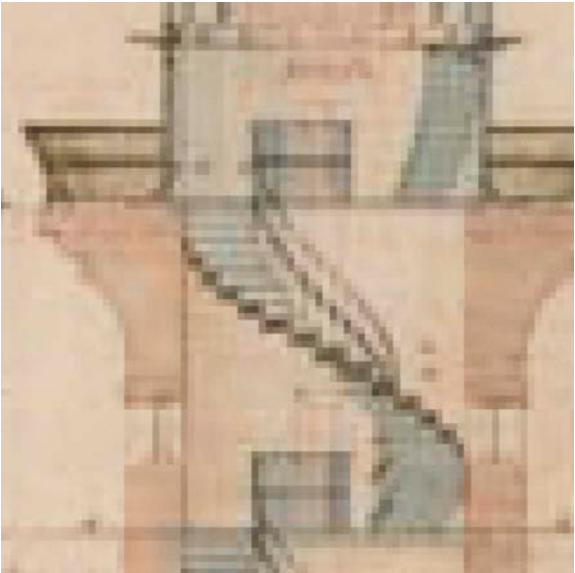
This digital surrogate is © Copyright National Archives of Australia 2016

47

DIGITAL SURROGATE

ShowImage.aspx, 2005
RGB/jpg, 63.7KB, 300K px
705 x 425 px; 1.763 x
1.063 in; 400 px/in

National Archives of
Australia, Canberra,
Australia



MATERIAL SURROGATE

ShowImage.aspx, Nation-
al Archives of Australia,
14.326 px/in, 2016. James
Barnet (Scottish, 1827-
1904), *Montague Island
Lighthouse and Quarters*,
1878, Drawing, 74.5 x 125
cm, National Archives of
Australia, Canberra

MATERIAL OBJECT

*Montague Island Light-
house and Quarters*, 1878

James Barnet, 1827-1904
Drawing
74.5 x 125 cm

LICENCE INFORMATION

For more information con-
tact ref@naa.gov.au

National Archives of Australia

ShowImage.aspx, created 2005

METADATA HIGHLIGHTS

./47/ShowImage.aspx.jpg: (No IPTC data found in
the file)

Exif.Image.Orientation	top, left
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Exif.Image.DateTime	2005:08:11 09:43:10
Exif.Photo.ColorSpace	sRGB
Exif.Photo.PixelXDimension	705
Exif.Photo.PixelYDimension	425
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Xmp.xmp.ModifyDate	2005-08- 11T09:43:10+10:00
Xmp.xmp.MetadataDate	2005-08- 11T09:43:10+10:00
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Xmp.xmpMM.DerivedFrom	type="Struct"
Xmp.xmpMM.DerivedFrom/stRef:instanceID	uuid:6be1200d-09f8-11da-bede-8774b185c858
Xmp.xmpMM.DerivedFrom/stRef:documentID	adobe:docid:photoshop:6be1200c-09f8-11da-be- de-8774b185c858
Xmp.xmpMM.DocumentID	ado- be:docid:photoshop:6be12010-09f8-11da-be- de-8774b185c858
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Xmp.dc.format	image/jpeg



This digital surrogate is © The National Gallery, London, CC BY-NC-ND 4.0

DIGITAL SURROGATE

N-0186-00-000118-wpu,
2009
RGB/jpg, 342KB, 468K px
585 x 800 px; 1.95 x 2.667
in; 300 px/in

The National Gallery,
London, United Kingdom

MATERIAL SURROGATE

N-0186-00-000118-wpu,
The National Gallery, 24.72
px/in, 2016. Jan van Eyck
(Netherlandish, d. 1441),
*Portrait of Giovanni(?)
Arnolfini and his Wife*,
1434, Oil on oak, 82.2 x 60
cm, The National Gallery,
London

MATERIAL OBJECT

*Portrait of Giovanni(?) Ar-
nolfini and his Wife*, 1434

Jan van Eyck, d. 1441
Oil on oak
82.2 x 60 cm

LICENCE INFORMATION

£300 via price calculator
for: (1) Main category: Bro-
chures; (2) Quantity: Up to
1,000; (3) Territory: World,
1 language; (4) Placement/
size: Cover



The National Gallery

N-0186-00-000118-wpu,
created 2009

METADATA HIGHLIGHTS

Exif.Image.Artist Photography and
Imaging, The National Gallery, London
Exif.Image.Copyright Jan van Eyck, 'Portrait
of Giovanni(?) Arnolfini and his Wife' © The National
Gallery, London. Bought, 1842. This work is licensed
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Work www.nationalgallery.org.uk
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Xmp.dc.publisher The National Gallery,
London
Xmp.dc.rights lang="x-default" Jan van
Eyck, 'Portrait of Giovanni(?) Arnolfini and his Wife'
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49

DIGITAL SURROGATE

N-0189-00-000058-wpu,
2009
RGB/jpg, 462K, 46.24MB px
578 x 800 px; 1.927 x
2.667 in; 300 px/in

The National Gallery,
London, United Kingdom

MATERIAL SURROGATE

N-0189-00-000058-
wpu, The National Gallery,
32.987 px/in, 2016. Giovan-
ni Bellini (Italian, 1430-
1516), *Doge Leonardo*
Loredan, 1501-1502, Oil on
poplar, 61.6 x 45.1 cm, The
National Gallery, London

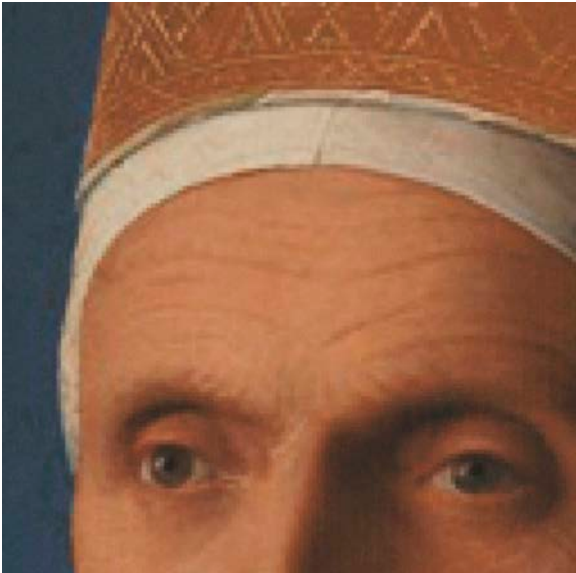
MATERIAL OBJECT

Doge Leonardo Loredan,
1501-1502

Giovanni Bellini, 1430-1516
Oil on poplar
61.6 x 45.1 cm

LICENCE INFORMATION

£300 via price calculator
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1,000; (3) Territory: World,
1 language; (4) Placement/
size: Cover



The National Gallery

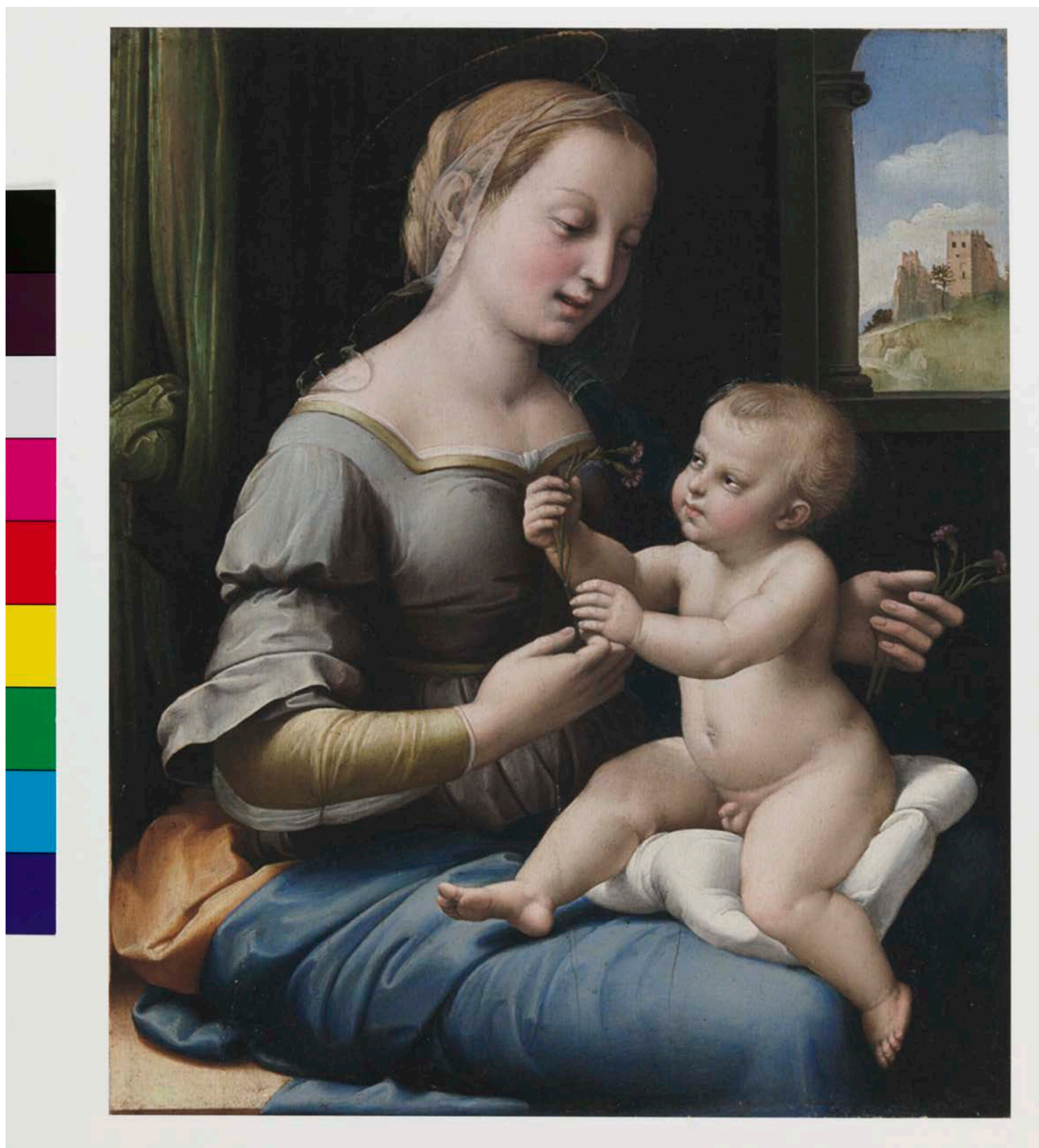
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created 2009

METADATA HIGHLIGHTS

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50

DIGITAL SURROGATE

N-6596-00-000009-wpu,
2015
RGB/jpg, 440KB, 515K
644 x 800 px; 25.354 x
31.496 in; 10 px/in

The National Gallery,
London, United Kingdom

MATERIAL SURROGATE

N-6596-00-000009-
wpu, The National Gallery,
72.832 px/in, 2016. Ra-
phael (Italian, 1483-1520),
The Madonna of the Pinks
("La Monna del Garofani"),
about 1506-1507, Oil on
yew, 27.9 x 22.4 cm, The
National Gallery, London

MATERIAL OBJECT

The Madonna of the Pinks
("La Monna del Garofani"),
about 1506-1507

Raphael, 1483-1520
Oil on yew
27.9 x 22.4 cm

LICENCE INFORMATION

£300 via price calculator
for: (1) Main category: Bro-
chures; (2) Quantity: Up to
1,000; (3) Territory: World,
1 language; (4) Placement/
size: Cover



The National Gallery

N-6596-00-000009-wpu,
created 2015

METADATA HIGHLIGHTS

Exif.Image.Copyright Raphael, The
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sistance of the Heritage Lottery Fund, The Art Fund
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Ondaatje and through public appeal, 2004. This
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London
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phael, The Madonna of the Pinks ('La Madonna dei
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51

DIGITAL SURROGATE

imageserver, unknown
RGB/jpg, 70.6KB, 307K px
480 x 640 px; 0.6 x 0.8 in;
800.027 px/in

National Gallery of Canada,
Ottawa, Ontario, Canada

MATERIAL SURROGATE

imageserver, National
Gallery of Canada, 26.304
px/in, 2016. William Berczy
(Bavarian, 1744-1813),
*Thayendanegea (Joseph
Brant)*, c. 1807, Oil on
canvas, 61.8 x 46.1 cm,
National Gallery of Canada,
Ottawa; <http://gallery.ca/>

MATERIAL OBJECT

*Thayendanegea (Joseph
Brant)*, c. 1807

William Berczy, 1744-1813
Oil on canvas
61.8 x 46.1 cm

LICENCE INFORMATION

Price available upon
request: contact the Copy-
right Division of the NGC



National Gallery of Canada

imageserver, unknown

METADATA

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52

DIGITAL SURROGATE

imageserver, unknown
RGB/jpg, 138KB, 285K px
446 x 460 px; 6.194 x
8.889 in; 72 px/in

National Gallery of Canada,
Ottawa, Ontario, Canada

MATERIAL SURROGATE

imageserver, National Gal-
lery of Canada, 42.223 px/
in, 2016. Karl Blechen (Ger-
man, 1798-1840), *Young
Oak Tree*, c. 1822-1834, Oil
on wove paper, mounted on
paperboard, 38.5 x 26.6 cm,
National Gallery of Canada,
Ottawa. <http://gallery.ca/>

MATERIAL OBJECT

Young Oak Tree, c. 1822-
1834

Karl Blechen, 1798-1840
Oil on wove paper, mounted
on paperboard
38.5 x 26.6 cm

LICENCE INFORMATION

Price available upon
request: contact the Copy-
right Division of the NGC

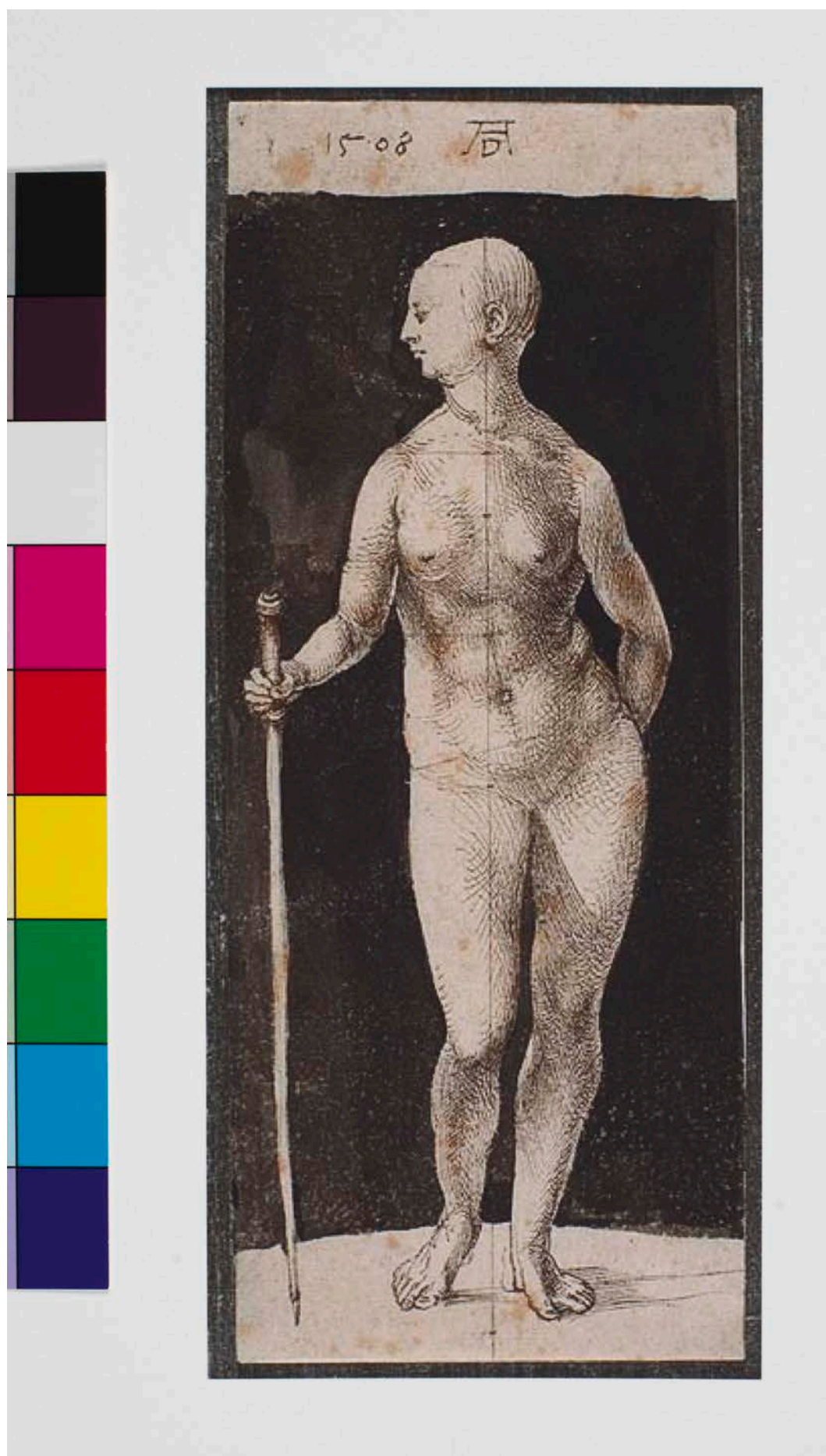


National Gallery of Canada

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53

DIGITAL SURROGATE

imageserver, unknown
RGB/jpg, 63.6KB, 176K px
275 x 640 px; 3.819 x
8.889 in; 72 px/in

National Gallery of Canada,
Ottawa, Ontario, Canada

MATERIAL SURROGATE

imageserver, National
Gallery of Canada, 69.174
px/in, 2016. Albrecht Dürer
(German, 1471-1528),
Nude Woman with a Staff,
c. 1500, Pen and brown ink
with brown wash on laid pa-
per, 23.5 x 9.6 cm, National
Gallery of Canada, Ottawa.
<http://gallery.ca/>

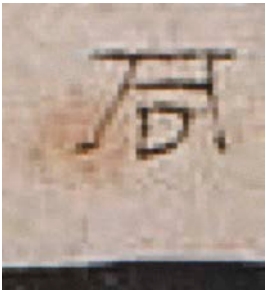
MATERIAL OBJECT

Nude Woman with a Staff,
c. 1500

Albrecht Dürer, 1471-1528
Pen and brown ink with
brown wash on laid paper
23.5 x 9.6 cm

LICENCE INFORMATION

Price available upon
request: contact the Copy-
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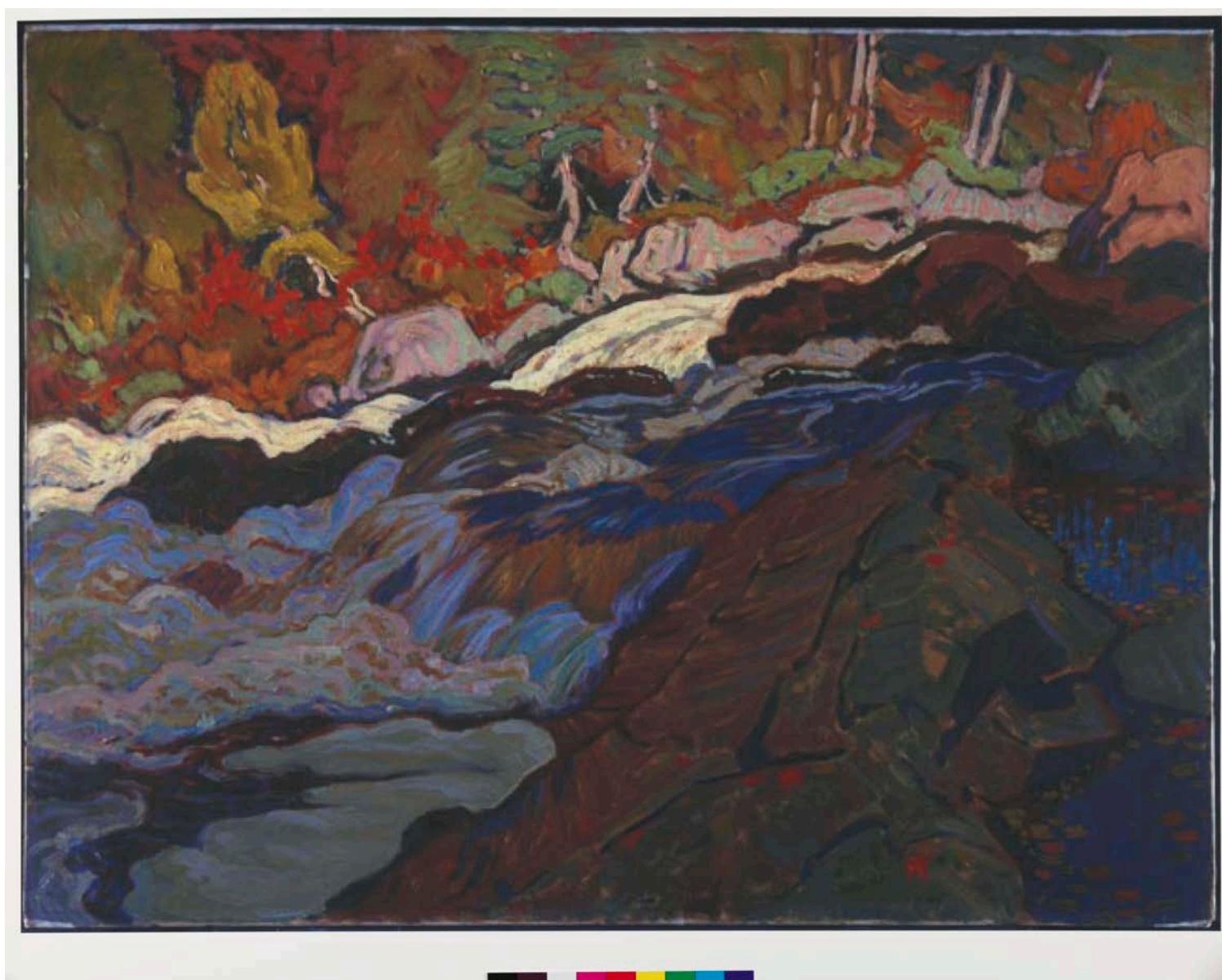


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54

DIGITAL SURROGATE

imageserver, unknown
RGB/jpg, 65.8KB, 320K px/
640 x 500 px; 8.889 x
6.944 in; 72 px/in

National Gallery of Canada,
Ottawa, Ontario, Canada

MATERIAL SURROGATE

imageserver, National Gal-
lery of Canada, 17.689 px/
in, 2016. J.E.H. MacDonald
(British, Canadian, 1873-
1932), *Batchewana Rapid*,
1920, Oil on canvas, 71.9
x 91.9 cm, National Gallery
of Canada, Ottawa. [http://
gallery.ca/](http://gallery.ca/)

MATERIAL OBJECT

Batchewana Rapid, 1920

J.E.H. MacDonald, 1873-
1932
Oil on canvas
71.9 x 91.9 cm

LICENCE INFORMATION

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National Gallery of Canada

imageserver, unknown

METADATA

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DIGITAL SURROGATE

Ca100281, unknown
RGB/jpg, 134KB, 1.06M px
1280 x 828 px; 17.778 x
11.5 in; 72 px/in

National Gallery of Victoria,
Melbourne, Australia

MATERIAL SURROGATE

Ca100281, National Gallery
of Victoria, 120.862 px/
in, 2016. *Scholar's desk
screen*, Qing dynasty,
Kangxi period 1662-1722,
Porcelain, enamel, 17.4 x
26.9 cm, Felton Bequest,
1976, National Gallery of
Victoria, Melbourne

MATERIAL OBJECT

Scholar's desk screen,
Qing dynasty, Kangxi period
1662-1722

Porcelain, enamel
17.4 x 26.9 cm

LICENCE INFORMATION

Price available upon
request: [copyright@ngv.
vic.gov.au](mailto:copyright@ngv.vic.gov.au)



National Gallery of Victoria
Ca100281, unknown

METADATA

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56

DIGITAL SURROGATE

Ff106258, unknown
RGB/jpg, 266KB, 1.147M px
896 x 1280 px; 12.44 x
17.778 in; 72 px/in

National Gallery of Victoria,
Melbourne, Australia

MATERIAL SURROGATE

Ff106258, National Gallery
of Victoria, 134.347 px/
in, 2016. Francisco Goya y
Lucientes (Spanish, 1746-
1828), *The sleep of reason
produces monsters* (*El
sueño de la razón produce
monstruos*), plate 43 from
Los Caprichos (The Capric-
es), 1797-1798, published
1799, Etching and aquatint
printed in sepia ink, 18.3
x 12.2 cm (image); 21.5
x 151.1 cm (plate); 24.2
x 16.7 cm (sheet), Felton
Bequest 1976, National
Gallery of Victoria, Mel-
bourne

MATERIAL OBJECT

The sleep of reason produc-
es monsters (*El sueño de
la razón produce mon-
struos*), plate 43 from Los
Caprichos (The Caprices),
1797-1798, published
1799

Francisco Goya y Lucientes,
1746-1828
Etching and aquatint print-
ed in sepia ink
18.3 x 12.2 cm (image);
21.5 x 151.1 cm (plate);
24.2 x 16.7 cm (sheet)

LICENCE INFORMATION

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request: [copyright@ngv.
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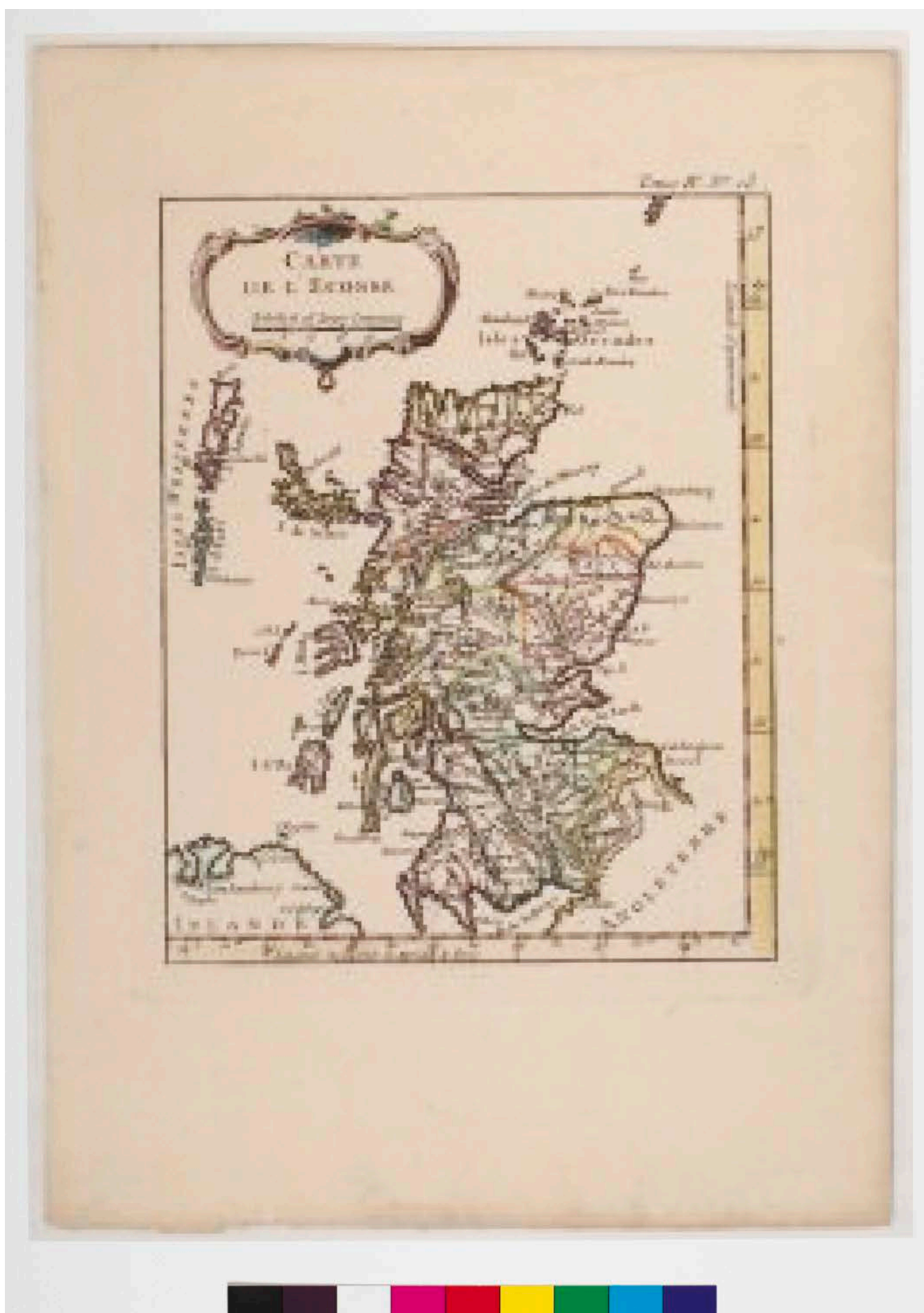


National Gallery of Victoria

Ff106258, unknown

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57

DIGITAL SURROGATE

102190159, 2014
RGB/jpg, 79.5KB, 72.2K px
230 x 314 px; 0.575 x
0.785 in; 400 px/in

National Library of Scotland,
Edinburgh, Scotland

MATERIAL SURROGATE

102190159, National
Library of Scotland, 24.924
px/in, 2016. J.N. Bellin
(French, 1703-1772), *Carte
de l'Ecosse*, 1764, 32 x
23 cm, National Library of
Scotland, Edinburgh; Repro-
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of the National Library of
Scotland

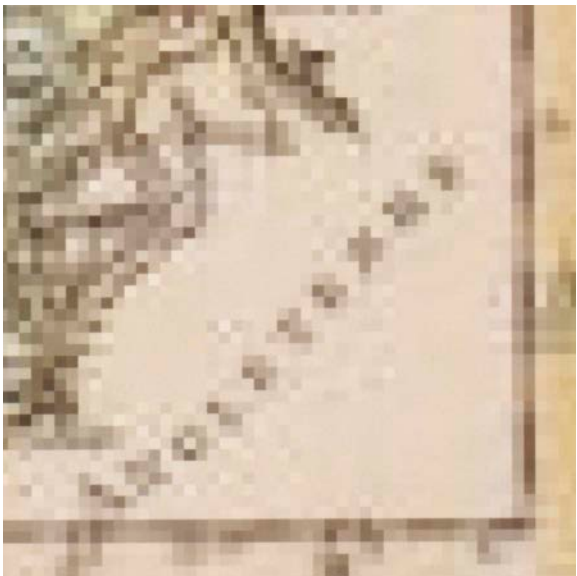
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Carte de l'Ecosse, 1764

J.N. Bellin, 1703-1772
32 x 23 cm

LICENCE INFORMATION

Price available upon re-
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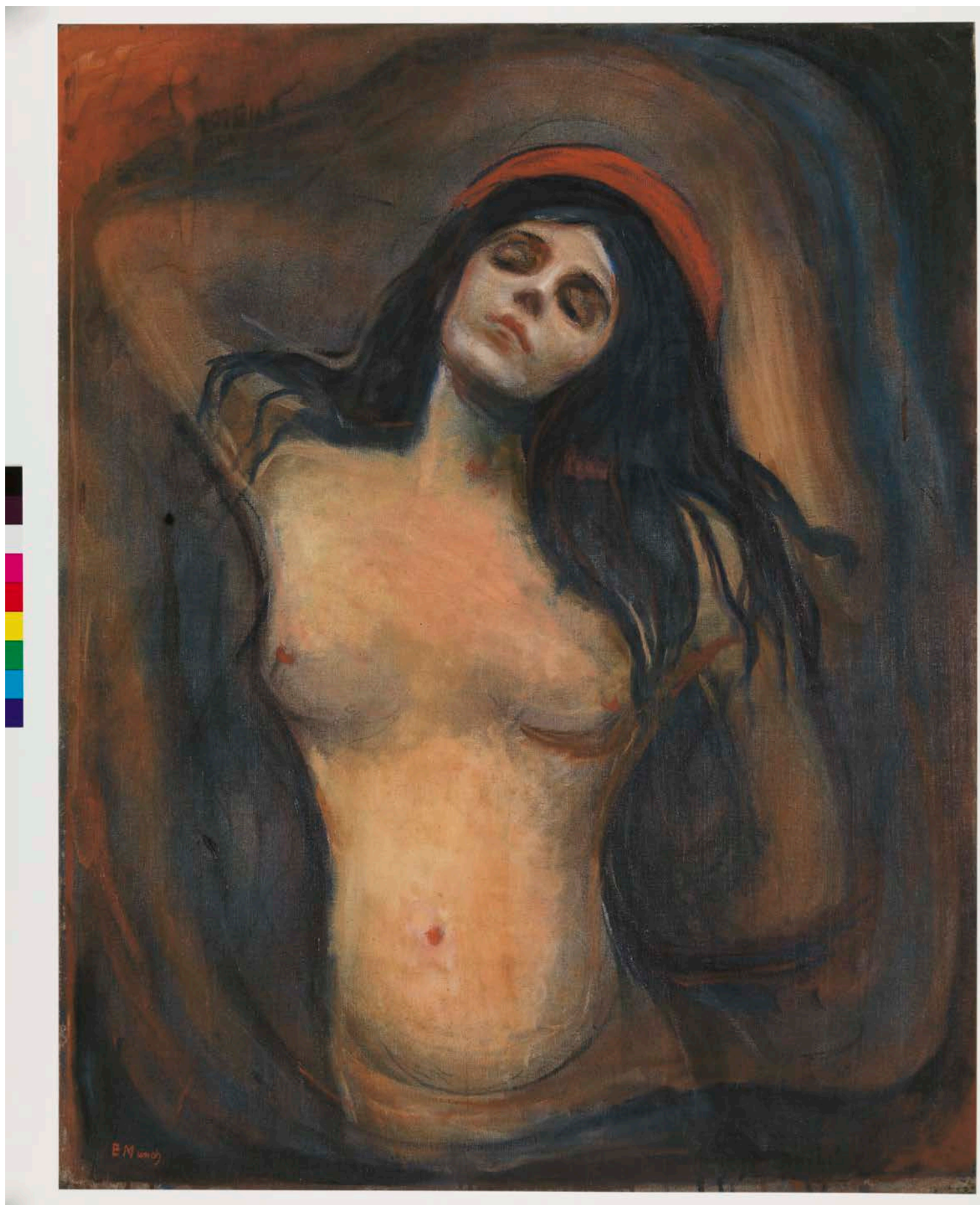


National Library of Scotland
102190159, created 2014

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58

DIGITAL SURROGATE

NG.M.00841, 2011
RGB/jpg, 12.34MB, 12.44M
px
3019 x 4000 px; 43.181 x
55.556 in; 72 px/in

National Museum of Art,
Architecture and Design,
Nasjonalmuseet,
Oslo, Norway

MATERIAL SURROGATE

NG.M.00841, National Mu-
seum of Art, Architecture
and Design – Nasjonalmu-
seet, 112.265 px/in, 2016.
Edvard Munch (Norwegian,
1863-1944), *Madonna*,
1894-1895, Oil on canvas,
90.5 x 70.5 cm, National
Museum of Art, Architec-
ture and Design – Nasjonal-
museet, Oslo

MATERIAL OBJECT

Madonna, 1894-1895

Edvard Munch, 1863-1944
Oil on canvas
90.5 x 70.5 cm

LICENCE INFORMATION

Price available upon
request: [photo@nasjonal-
museet.no](mailto:photo@nasjonal-
museet.no)



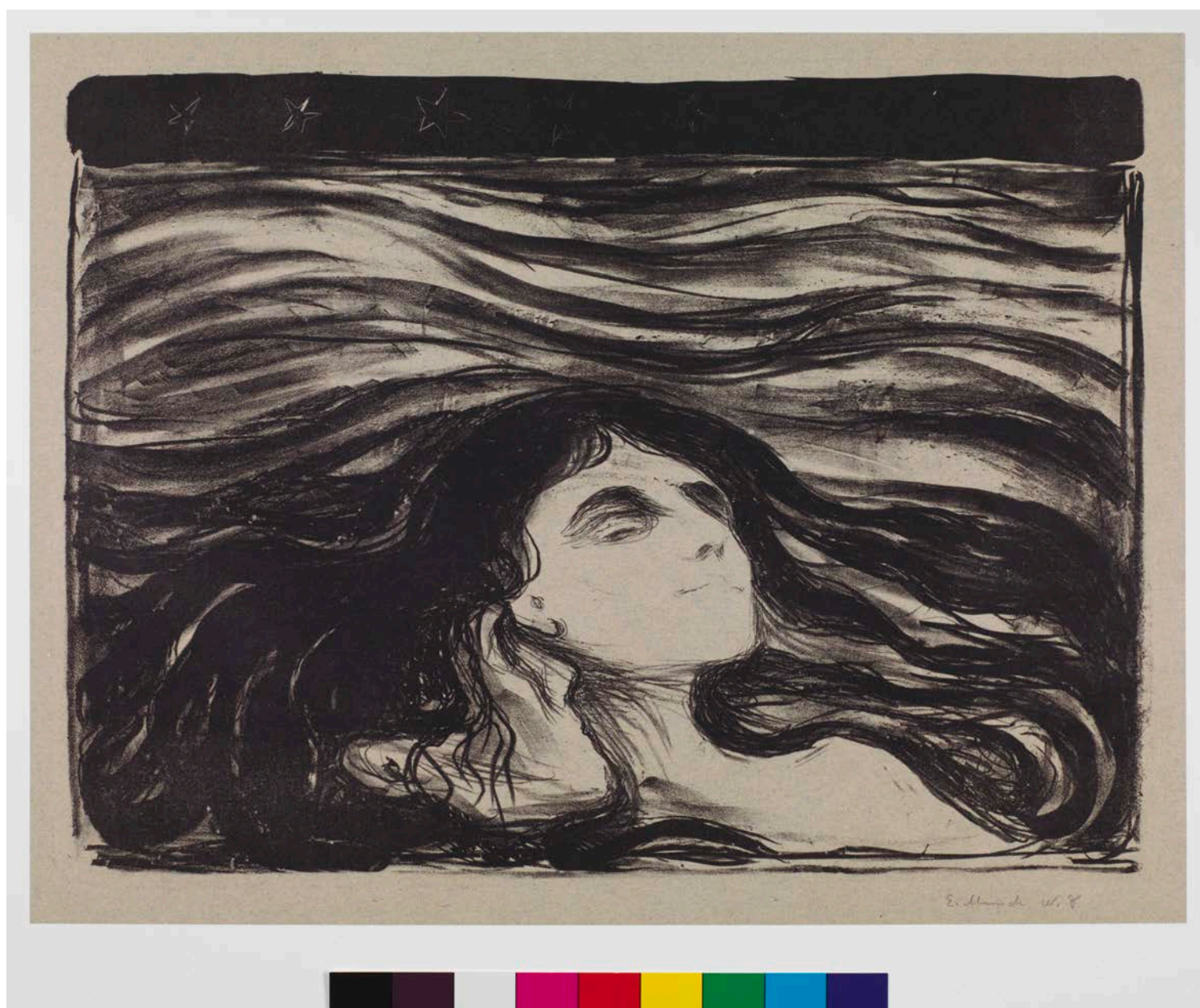
National Museum of Art,
Architecture and Design,
Nasjonalmuseet

NG.M.00841, created 2010

METADATA HIGHLIGHTS

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Madonna	
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Xmp.photoshop.Instructions	The National Museum of Art, Architecture and Design.
Street address, Administration:	
Kristian Augusts gate 23, Oslo	
Switchboard: (+47) 21 98 20 00	
Postal address:	
Post Box 7014, St. Olavs plass	
0130 OSLO	
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59

DIGITAL SURROGATE

NG.K&H.A.18999, 2010
RGB/jpg, 3.579MB, 3.082M
px
2000 x 1541 px; 27.778 x
21.403 in; 72 px/in
31.1 x 42.2 cm; 120.379
px/in

National Museum of Art,
Architecture and Design,
Nasjonalmuseet,
Oslo, Norway

MATERIAL SURROGATE

NG.K&H.A.18999, National
Museum of Art, Architec-
ture and Design – Nasjonal-
museet, 120.379 px/in,
2016. Edvard Munch (Nor-
wegian, 1863-1944), *On
the Waves of Love*, 1896,
Lithograph, 31.1 x 42.2 cm,
National Museum of Art,
Architecture and Design –
Nasjonalmuseet, Oslo

MATERIAL OBJECT

On the Waves of Love,
1896

Edvard Munch, 1863-1944
Lithograph
31.1 x 42.2 cm

LICENCE INFORMATION

Price available upon
request: [photo@nasjonal-
museet.no](mailto:photo@nasjonal-
museet.no)



National Museum of Art,
Architecture and Design,
Nasjonalmuseet

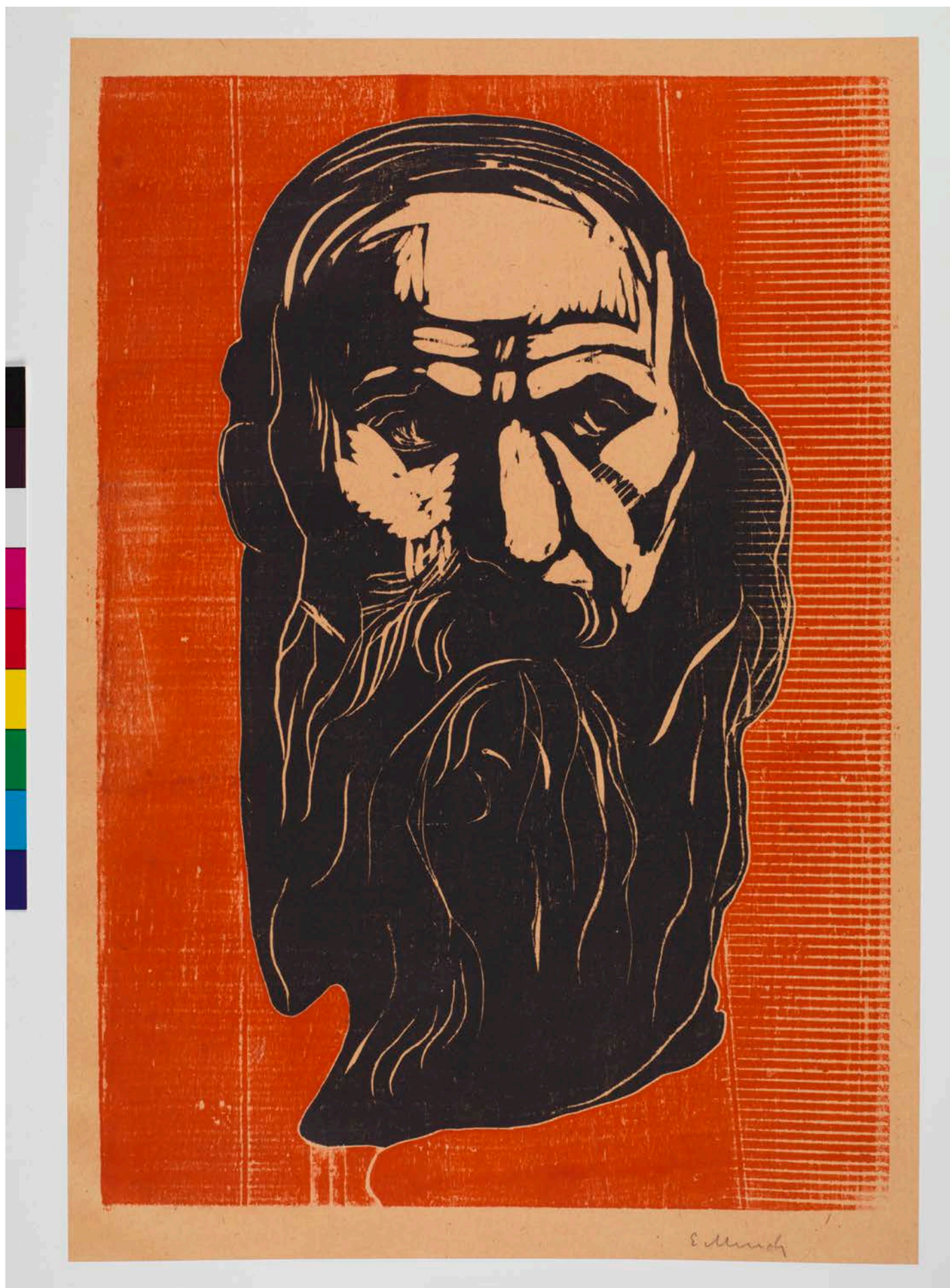
NG.K&H.A.18999, created 2010

METADATA HIGHLIGHTS

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Exif.Image.Copyright	Nasjonalmuseet for kunst, arkitektur og design/The National Museum of Art, Architecture and Design
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Xmp.photoshop.Instructions	The National Museum of Art, Architecture and Design.
Street address, Administration:	Kristian Augusts gate 23, Oslo
Switchboard:	(+47) 21 98 20 00
Postal address:	Post Box 7014, St. Olavs plass 0130 OSLO
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Iptc.Application2.SpecialInstructions	The Na- tional Museum of Art, Architecture and Design.
Street address, Administration:	Kristian Augusts gate 23, Oslo
Switchboard:	(+47) 21 98 20 00
Postal address:	Post Box 7014, St. Olavs plass 0130 OSLO
Iptc.Application2.Byline	Dag A. Ivarsv
Iptc.Application2.Copyright	Nasjonalmuseet for kunst, arkitektur og design/The National Muse- um of Art, Architecture and Design





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60

DIGITAL SURROGATE

NG.K&H.A.19115, 2010
RGB/jpg, 3.041MB, 2.776M
px
1388 x 2000 px; 19.278 x
27.778; 72 px/in

National Museum of Art,
Architecture and Design,
Nasjonalmuseet,
Oslo, Norway

MATERIAL SURROGATE

NG.K&H.A.19115, National
Museum of Art, Architec-
ture and Design – Nas-
jonalmuseet, 110.435 px/
in, 2016. Edvard Munch
(Norwegian, 1863-1944),
*Head of an Old Man with
Beard*, 1902, Color woodcut
on paper, 46 x 32.5 cm,
National Museum of Art,
Architecture and Design –
Nasjonalmuseet, Oslo

MATERIAL OBJECT

*Head of an Old Man with
Beard*, 1902

Edvard Munch, 1863-1944
Color woodcut on paper
46 x 32.5 cm

LICENCE INFORMATION

Price available upon
request: [photo@nasjonal-
museet.no](mailto:photo@nasjonal-
museet.no)



National Museum of Art,
Architecture and Design,
Nasjonalmuseet

NG.K&H.A.19115, created 2010

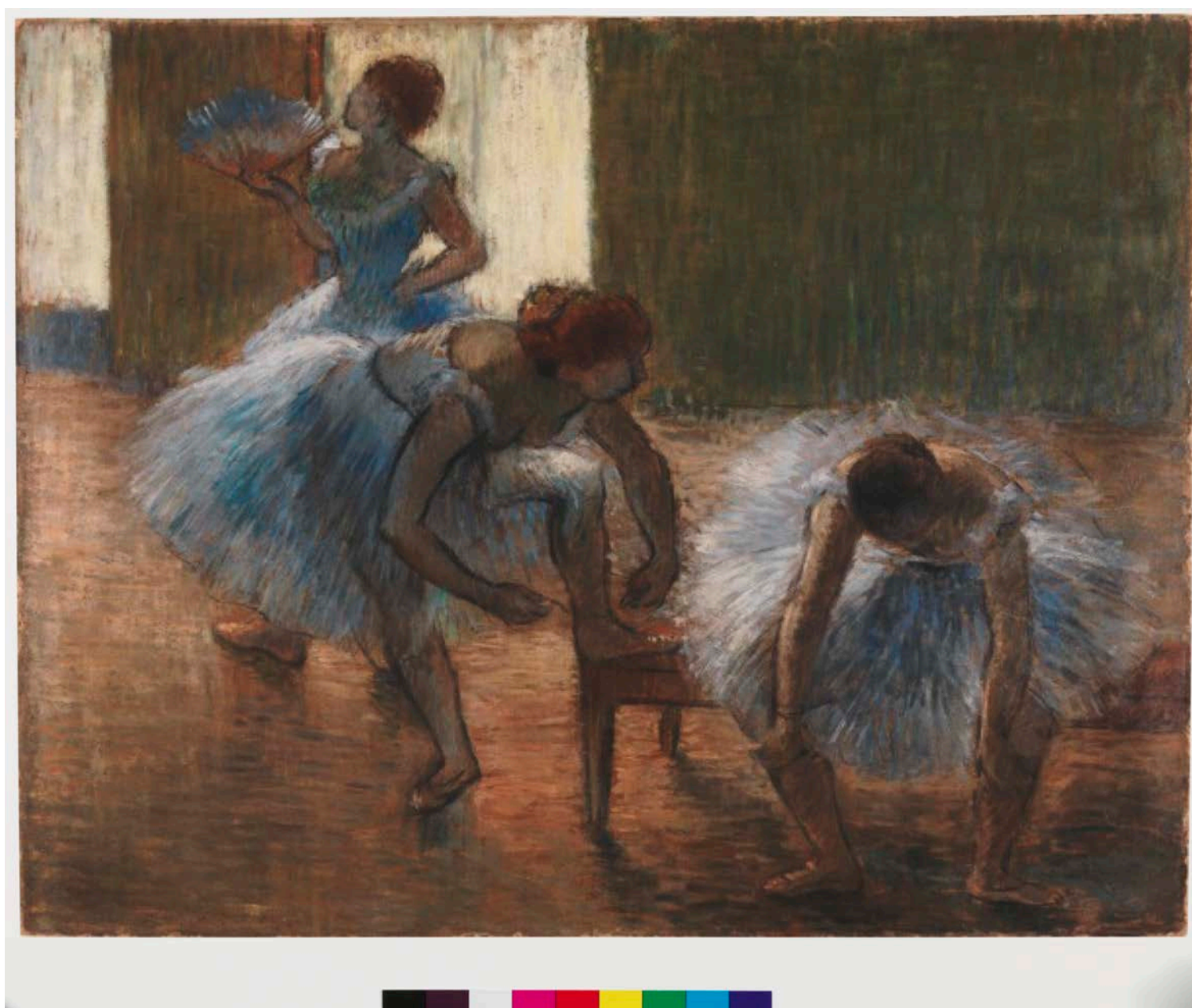
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Exif.Image.Copyright	Nasjonalmuseet for kunst, arkitektur og design/The National Museum of Art, Architecture and Design
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Street address, Administration:	Kristian Augusts gate 23, Oslo
Switchboard:	(+47) 21 98 20 00
Postal address:	Post Box 7014, St. Olavs plass
	0130 OSLO
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Iptc.Application2.Byline	Dag A. Ivarsv[Illy
Iptc.Application2.Copyright	Nasjonalmuseet for kunst, arkitektur og design/The National Muse- um of Art, Architecture and Design





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61

DIGITAL SURROGATE

1-0784_005, 2012
RGB/jpg, 117KB, 299K px
598 x 500 px; 6.229 x 5.208
in; 96 px/in

Queensland Art Gallery,
Gallery of Modern Art,
Brisbane, Australia

MATERIAL SURROGATE

1-0784_005, Queensland
Art Gallery, Gallery of
Modern Art, 25.065 px/
in, 2016. Edgar Degas
(French, 1834-1917), *Trois
danseuses a la classe de
danse (three dancers at
a dance class)*, c. 1888-
1890, Oil on canvas, 50.0
x 60.6 cm, Queensland Art
Gallery, Gallery of Modern
Art, Brisbane

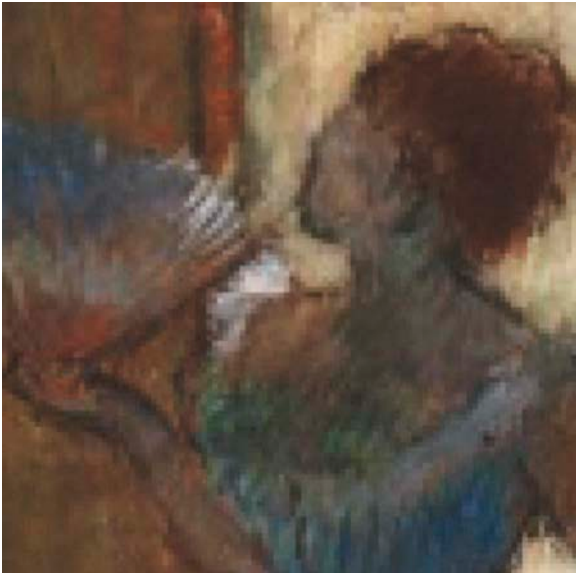
MATERIAL OBJECT

*Trois danseuses a la classe
de danse (three dancers at
a dance class)*, c. 1888-
1890

Edgar Degas, 1834-1917
Oil on canvas
50.0 x 60.6 cm

LICENCE INFORMATION

Price available upon re-
quest: [publications@qag.
qld.gov.au](mailto:publications@qag.qld.gov.au)



Queensland Art Gallery,
Gallery of Modern Art

1-0784_005, created 2012

METADATA HIGHLIGHTS

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CiAdrExtadr Queensland Art Gallery | Gallery of Mod-
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fault" Check with QAG Publications before use
Iptc.Envelope.CharacterSet %G
Iptc.Application2.RecordVersion 4
Iptc.Application2.Caption DEGAS, Edgar
France b.1834 d.1917
Trois danseuses a la classe de danse (Three dancers
at a dancing class)
c.1888-90
Oil
on cardboard
50.5 x 60.6cm
Acc. 1:0784
Purchased 1959 with funds donated by Major Har-
old de Vahl Rubin
Iptc.Application2.Writer KE Emu record
Iptc.Application2.Byline Natasha Harth
Iptc.Application2.BylineTitle Photographer
Iptc.Application2.Source QAG Photography





Stiftung
Preussische Kulturbesitz

Pieter Bruegel der Ältere, Zwei angekettete Affen, Ident. Nr.: 2077
© Foto: Gemäldegalerie, Staatliche Museen zu Berlin
Fotograf/in: Jörg P. Anders



This digital surrogate is © Foto: Gemäldegalerie der Staatlichen Museen zu Berlin - Preussischer Kulturbesitz;
Fotograf/in: Jörg P. Anders, CC BY-NC-SA

62

DIGITAL SURROGATE

eMuseumPlus, unknown
RGB/jpg, 78.8KB, 136K px
350 x 390 px; 2.33 x 2.6 in;
150 px/in

Staatliche Museen zu
Berlin, Berlin, Germany

MATERIAL SURROGATE

eMuseumPlus, Staatliche
Museen zu Berlin, 29.933
px/in, 2016. Pieter Bruegel
(der Ältere) (Netherlandish,
1525-1569), *Zwei an-
gekettete Affen*, 1562, Oak
wood, 19.9 x 23 cm, Gemäl-
degalerie, Berlin. Staatliche
Museen zu Berlin

MATERIAL OBJECT

Zwei angekettete Affen,
1562

Pieter Bruegel (der Ältere),
1525-1569
Oak wood
19.9 x 23 cm

LICENCE INFORMATION

Price available upon re-
quest: [contact@bpk-im-
ages.de](mailto:contact@bpk-images.de)



Staatliche Museen zu Berlin

eMuseumPlus, unknown

METADATA

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./62/eMuseumPlus.jpg: (No IPTC data found in the file)





Stiftung
Preussischer Kulturbesitz

Caspar David Friedrich, Frau am Fenster, Öl auf Leinwand, 1818
© Foto: Nationalgalerie, Staatliche Museen zu Berlin
Fotograf/in: Jörg P. Anders



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Fotograf/in: Jörg P. Anders, CC BY-NC-SA

63

DIGITAL SURROGATE

eMuseumPlus, unknown
RGB/jpg, 56.3KB, 136K px
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150 px/in

Staatliche Museen zu
Berlin, Berlin, Germany

MATERIAL SURROGATE

eMuseumPlus, Staatliche
Museen zu Berlin, 20.216
px/in, 2016. Caspar David
Friedrich (German, 1774-
1840), *Frau am Fenster*,
1822, Oil on canvas, 44.1 x
37 cm, Alte Nationalgalerie,
Berlin. Staatliche Museen
zu Berlin

MATERIAL OBJECT

Frau am Fenster, 1822

Caspar David Friedrich,
1774-1840
Oil on canvas
44.1 x 37 cm

LICENCE INFORMATION

Price available upon re-
quest: contact@bpk-images.de



Staatliche Museen zu Berlin

eMuseumPlus, unknown

METADATA

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This digital surrogate is © Foto: Gemäldegalerie der Staatlichen Museen zu Berlin - Preußischer Kulturbesitz, CC BY-NC-SA

64

DIGITAL SURROGATE

eMuseumPlus, unknown
RGB/jpg, 57.9KB, 136K px
350 x 390 px; 2.33 x 2.6 in;
150 px/in

Staatliche Museen zu
Berlin, Berlin, Germany

MATERIAL SURROGATE

eMuseumPlus, Staatliche
Museen zu Berlin, 15.893
px/in, 2016. Johannes Ver-
meer (Dutch, 1632-1675),
*Junge Dame mit Perlen-
halsband*, um 1662/1665,
Canvas, 56.1 x 47.40 cm,
Gemäldegalerie, Berlin

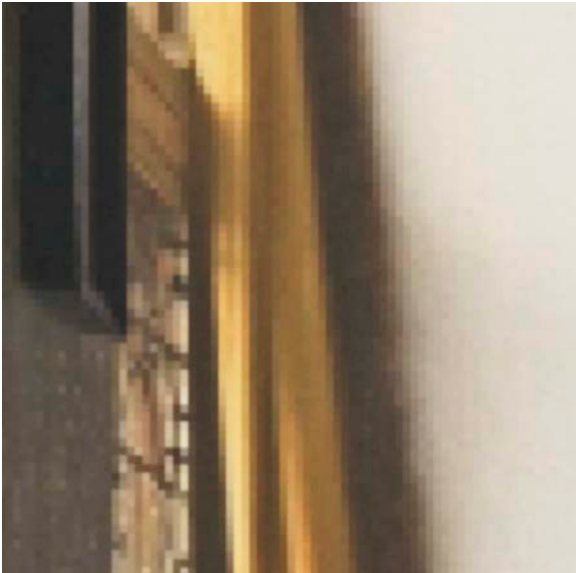
MATERIAL OBJECT

*Junge Dame mit Perlen-
halsband*, um 1662/1665

Johannes Vermeer, 1632-
1675
Canvas
56.1 x 47.40 cm

LICENCE INFORMATION

Price available upon re-
quest: [contact@bpk-im-
ages.de](mailto:contact@bpk-images.de)



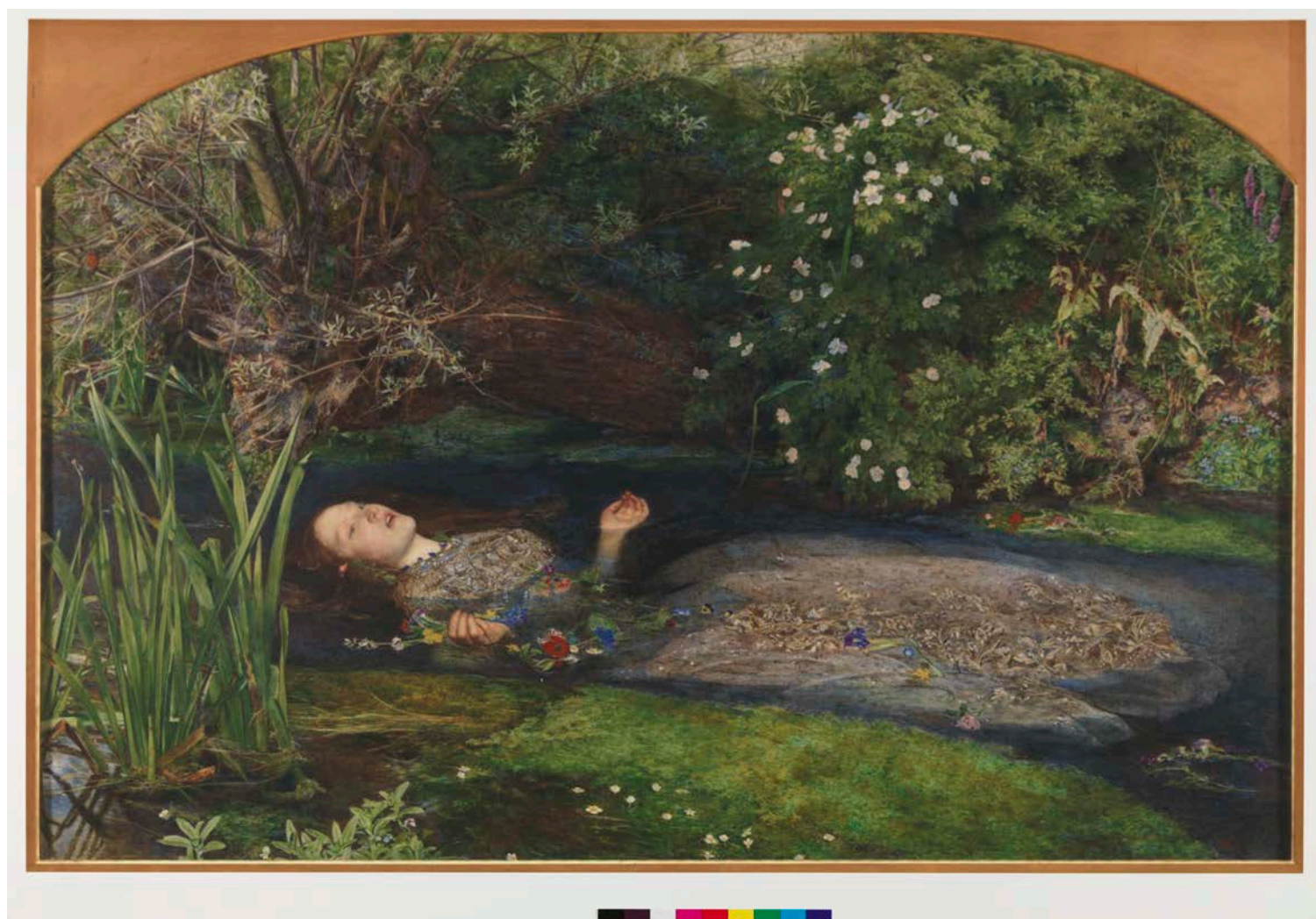
Staatliche Museen zu Berlin

eMuseumPlus, unknown



METADATA

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This digital surrogate is © Tate, London

65

DIGITAL SURROGATE

N01506_10, unknown
RGB/jpg, 287KB, 1.619M px
1536 x 1054 px; 21.333 x
14.639 in; 72 px/in

Tate, London, United
Kingdom

MATERIAL SURROGATE

N01506_10, Tate, 35.133
px/in, 2016. Sir John
Everett Millais (English,
1829-1896), *Ophelia*,
1851-1852, Oil paint on
canvas, 76.2 x 111.76 cm,
Tate Britain, London

MATERIAL OBJECT

Ophelia, 1851-1852

Sir John Everett Millais, Bt,
1829-1896
Oil paint on canvas
76.2 x 111.76 cm

LICENCE INFORMATION

£188 via price calculator
for: (1) Usage: Product;
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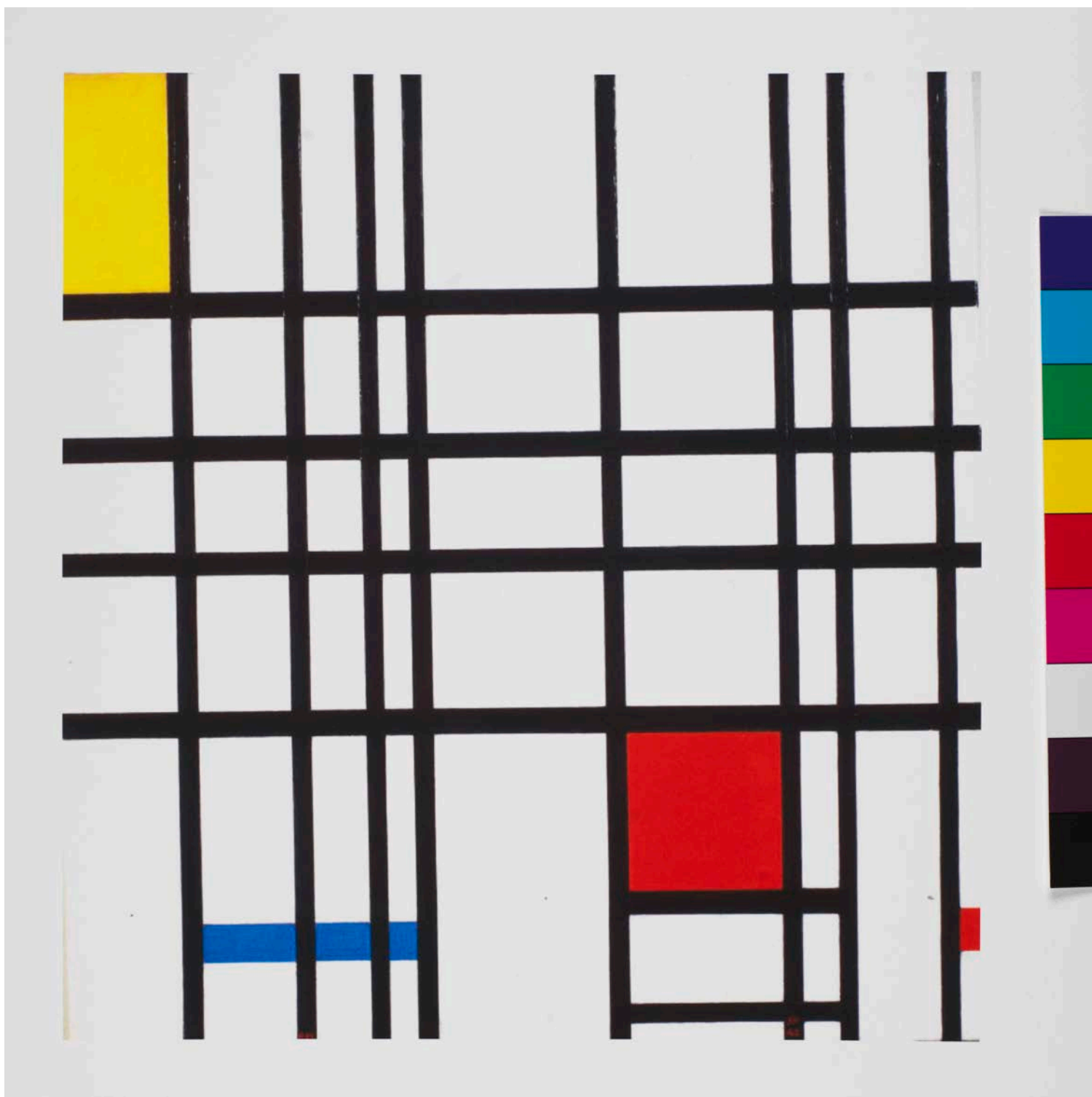


Tate
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Iptc.Application2.ObjectName N01506
Iptc.Application2.Headline Ophelia 1851-2
by Sir John Everett Millais, Bt 1829-1896
Iptc.Application2.Caption Ophelia 1851-
2 Sir John Everett Millais, Bt 1829-1896 Presented
by Sir Henry Tate 1894 [http://www.tate.org.uk/art/
work/N01506](http://www.tate.org.uk/art/work/N01506)





This digital surrogate is © Tate, London

66

DIGITAL SURROGATE

T00648_10, 2007
RGB/jpg, 61.5KB, 866K px
906 x 956 px; 12.583 x
13.278 in; 72 px/in

Tate, London, United
Kingdom

MATERIAL SURROGATE

T00648_10, Tate, 82.482
px/in, 2016. Piet Mondrian
(Dutch, 1872-1944), *Com-
position with Yellow, Blue
and Red*, 1937-1942, Oil
paint on canvas, 30 x 27.9
cm, Tate, London

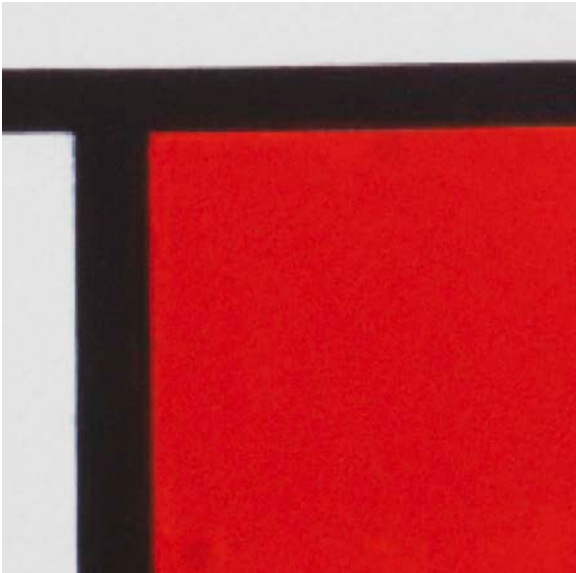
MATERIAL OBJECT

*Composition with Yellow,
Blue and Red*, 1937-1942

Piet Mondrian, 1872-1944
Oil paint on canvas
30 x 27.9 cm

LICENCE INFORMATION

£188 via price calculator
for: (1) Usage: Product;
(2) Media: Poster; (3)
Territory: World; (4) Size
up to &/or placement: A2
(420x594mm); (5) Distri-
bution up to: 500 copies

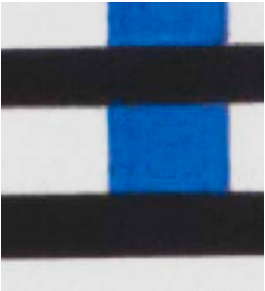
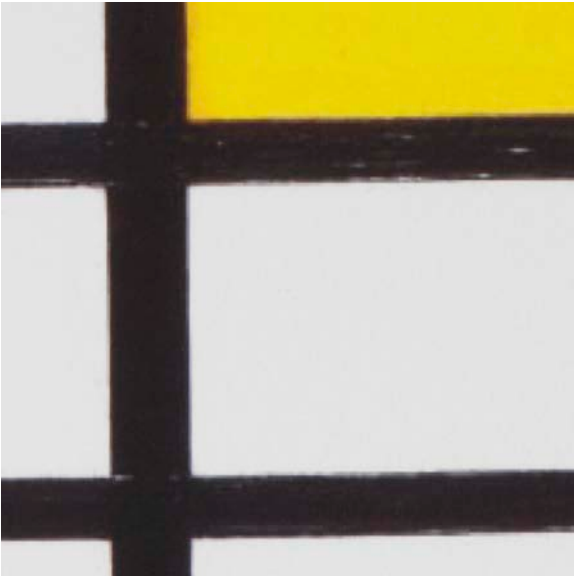


Tate

T00648_10, created 2007

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ton, VA / Photo (c) Tate
Iptc.Application2.ObjectName T00648
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with Yellow, Blue and Red 1937-42 by Piet Mondrian
1872-1944
Iptc.Application2.Caption Composition with
Yellow, Blue and Red 1937-42 Piet Mondrian 1872-
1944 Purchased 1964 [http://www.tate.org.uk/art/
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This digital surrogate is © Tate, London

67

DIGITAL SURROGATE

D36235_10, unknown
RGB/jpg, 158KB, 1.52M px
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14.111 in; 72 px/in

Tate, London, United
Kingdom

MATERIAL SURROGATE

D36235_10, Tate, 107.527
px/in, 2016. Joseph Mallord
William Turner (English,
1775-1851), *The Burning
of the Houses of Parlia-
ment*, 1834-1835, Waterc-
olour and gouache on paper,
30 x 22.1 cm, Tate, London

MATERIAL OBJECT

*The Burning of the Houses
of Parliament*, 1834-1835

Joseph Mallord William
Turner, 1775-1851
Watercolour and gouache
on paper
30 x 22.1 cm

LICENCE INFORMATION

£188 via price calculator
for: (1) Usage: Product;
(2) Media: Poster; (3)
Territory: World; (4) Size
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(420x594mm); (5) Distri-
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Tate

D36235_10, unknown

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Iptc.Application2.ObjectName D36235
Iptc.Application2.Headline The Burning of
the Houses of Parliament ?1834-5 by Joseph Mal-
lord William Turner 1775-1851
Iptc.Application2.Caption The Burning of the
Houses of Parliament ?1834-5 Joseph Mallord Wil-
liam Turner 1775-1851 Accepted by the nation as
part of the Turner Bequest 1856 <http://www.tate.org.uk/art/work/D36235>





Part Three:

Medium risk

British Library ▪ Israel Museum ▪ Kelvingrove Museum ▪ Musée d'Orsay ▪ Musée du Louvre ▪ The National Archives ▪ National Galleries of Scotland ▪ National Gallery of Ireland ▪ National Museum of Korea ▪ National Palace Museum ▪ Van Gogh Museum ▪ Victoria and Albert Museum

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*On left: 066118, British Library, 24.017 px/in, 2016.
Sir John Tenniel (English, 1820-1914), The Nursery :Alice,: containing twenty coloured en, Macmillan & Co.: London, 1890, 20.3 x 22.9 cm, British Library, London.
This digital surrogate is © The British Library Board.*



68



72



73



69



75



74



76



71

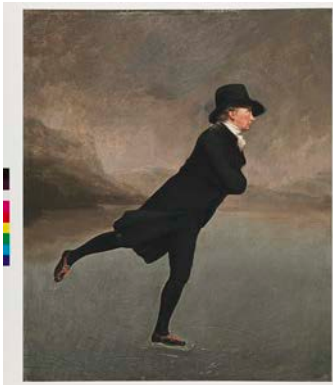


70



Medium risk

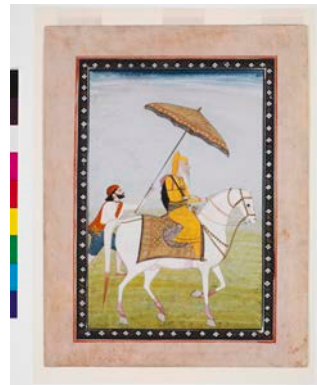
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British Library
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Musée d'Orsay
69 x 91.5 cm |
| 69 | klee, paul, angelus novus, 1920, 2006
The Israel Museum
31.8 x 24.2 cm | 74 | tmp_1b96093bc73aa95da9c6708f558e1cb1,
unknown
Musée d'Orsay
55.5 x 66 cm |
| 70 | pierre le rouge, map of the holy land, 1488,
2006
The Israel Museum
38.7 x 55.2 cm | 75 | x200_84749_11-564761, 2014
Musée du Louvre
77 x 53 cm |
| 71 | 1916_01_T, 2009
Kelvingrove Art Gallery and Museum
94.5 x 92.1 cm | 76 | MPB1-7_Ashburton_Devon_1605-I, unknown
The National Archives
55 x 43.2 cm |
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Musée d'Orsay
69 x 91.5 cm | | |



78



80



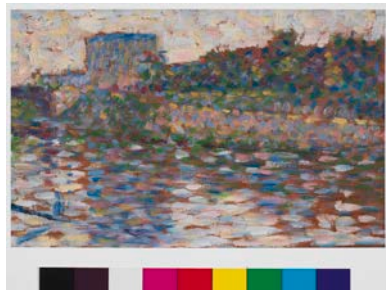
85



83



82



84



81



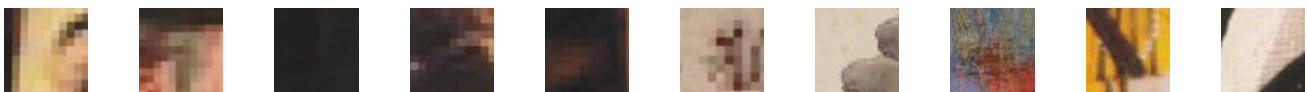
86



79



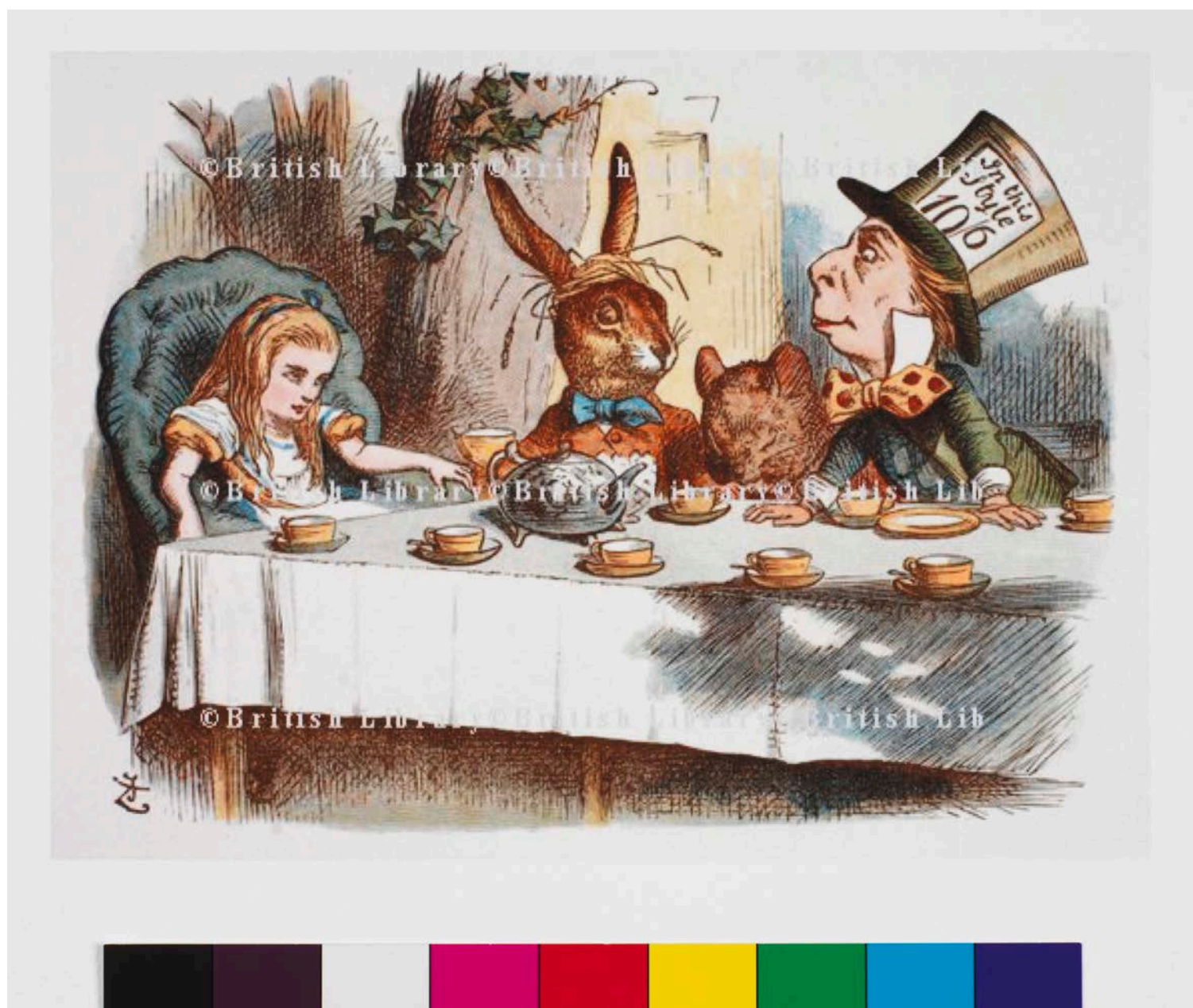
77



Medium risk

- 77 2014AA75242, unknown
National Galleries of Scotland
127 x 101 cm
- 78 2012AA41731, unknown
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76.2 x 63.5 cm
- 79 2013AA52883, unknown
National Galleries of Scotland
67.3 x 88.6 cm
- 80 Breton, 2010
National Gallery of Ireland
93 x 138 cm
- 81 75 Titian, 2010
National Gallery of Ireland
73.4 x 56 cm

- 82 PS01001001001-002389-001-0001,
unknown
National Museum of Korea
31.3 x 43.4 cm
- 83 img_03, unknown
National Palace Museum
133.3 x 34.5 cm
- 84 4707299725672448, 2013
Van Gogh Museum
15 x 24.5 cm
- 85 2013GL0322_2500, unknown
Victoria and Albert Museum
28 x 21.5 cm
- 86 2006AX7282_2500, unknown
Victoria and Albert Museum
112 x 94 cm



68

DIGITAL SURROGATE

066118, 2009
RGB/jpg, 85.6KB, 222K px
550 x 404 px; 0.918 x
0.674 in; 238 px/in

British Library, London,
United Kingdom

MATERIAL SURROGATE

066118, British Library,
24.017 px/in, 2016. Sir
John Tenniel (English, 1820-
1914), *The Nursery :Alice,:*
containing twenty coloured
en, Macmillan & Co.: Lon-
don, 1890, 20.3 x 22.9 cm,
British Library, London

MATERIAL OBJECT

The Nursery :Alice,: *con-*
taining twenty coloured en,
Macmillan & Co.: London,
1890

Sir John Tenniel,
1820-1914
20.3 x 22.9 cm

LICENCE INFORMATION

£320 via price calculator
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dise; (3) Media Detail: All
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(6) Quantity: Up to 500; (7)
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English



British Library

066118, created 2009

METADATA HIGHLIGHTS

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Exif.Image.DateTime	2009:08:10 10:01:20
Exif.Image.Copyright	©The British Library Board
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Xmp.dc.rights	lang="x-default" ©The British Library Board
Xmp.dc.subject	people by name,- mad hatter,period by decade or era,victorian era,par- ty,tea,disipline,humanities,classics,literature,art genres,fiction,food,drink,celebration,entertainment event,organism,animal,animal categories,mam- mal,people,child,female,girl,style and period,Date by century of work or scene,19th century,so-

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ture,dormouse,alice,alice in wonderland,children's
drawings, teas,foods,drinks,celebrating,celebra-
tions,parties,animals,children,kid,kids,females,per-
sonalities,famous people,named people,infant,in-
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isms,childrens literature,childrens stories,children's
stories,children's books,children's story,childrens
books,childrens book,children's pictures,childrens
pictures,childrens picture,childrens drawing, people
by name,mad hatter,period by decade or era,victori-
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ature,art genres,fiction,food,drink,celebration

Xmp.pdf.Author	British Library
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Iptc.Application2.Byline	British Library
Iptc.Application2.Headline	Cup.410.g.74, 39
Iptc.Application2.Credit	The British Library
Iptc.Application2.Source	The British Library
Iptc.Application2.Copyright	The British Library Board
Iptc.Application2.Caption	The Mad Hatter's tea party,.



This digital surrogate is © The Israel Museum, Jerusalem

69

DIGITAL SURROGATE

klee, paul, angelus novus,
1920, 2006
RGB/jpg, 32.6KB, 128K px
321 x 400 px; 1.07 x 1.33
in; 300 px/in

The Israel Museum,
Jerusalem, Israel

MATERIAL SURROGATE

klee, paul, angelus novus,
1920, The Israel Muse-
um, 11.132 px/in, 2016.
Paul Klee (Swiss-German,
1879-1940), *Angelus
Novus*, 1920, Oil transfer
and watercolor on paper,
31.8 x 24.2 cm, The Israel
Museum, Jerusalem

MATERIAL OBJECT

Angelus Novus, 1920

Paul Klee, 1879-1940
Oil transfer and watercolor
on paper
31.8 x 24.2 cm

LICENCE INFORMATION

Price available upon re-
quest: images@imj.org.il



The Israel Museum

klee, paul, angelus novus, 1920,
created 2006



METADATA HIGHLIGHTS

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photo (c) IMJ
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Exif.Image.XResolution 300
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Exif.Thumbnail.Compression JPEG (old-style)
Exif.Thumbnail.JPEGInterchangeFormat 362
Exif.Thumbnail.JPEGInterchangeFormatLength 4488



This digital surrogate is © The Israel Museum, Jerusalem

70

DIGITAL SURROGATE

pierre le rouge, map of the holy land, 1488, 2006
RGB/jpg, 45.7KB, 114K px
400 x 284 px; 1.33 x 0.947 in; 300 px/in

The Israel Museum,
Jerusalem, Israel

MATERIAL SURROGATE

pierre le rouge, map of the holy land, 1488, The Israel Museum, 18.406 px/in, 2016. Pierre le Rouge, French, 15th century after Lucas Brandis de Schass, German, 15th century, *Map of the Holy Land*, 1488, Woodcut on two blocks, 38.7 x 55.2 cm, The Israel Museum, Jerusalem

MATERIAL OBJECT

Map of the Holy Land, 1488

Pierre le Rouge, French, 15th century after Lucas Brandis de Schass, German, 15th century
Woodcut on two blocks
38.7 x 55.2 cm

LICENCE INFORMATION

Price available upon request: images@imj.org.il



The Israel Museum

pierre le rouge, map of the holy land, 1488, created 2006

METADATA HIGHLIGHTS

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Exif.Thumbnail.JPEGInterchangeFormat 324
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This digital surrogate is © Glasgow City Council Museums

71

DIGITAL SURROGATE

1916_01_T, 2009
RGB/jpg, 60.7KB, 32.4K px
180 x 180 px; 2.5 x 2.5 in;
72 px/in

Kelvingrove Art Gallery
and Museum, Glasgow,
United Kingdom

MATERIAL SURROGATE

1916_01_T, Kelvingrove
Art Gallery and Museum,
4.838 px/in, 2016. Sir John
Lavery (Irish, 1856-1941),
A Rally, 1885, Watercolor,
94.5 x 92.1 cm, Kelvingrove
Art Gallery and Museum,
Glasgow

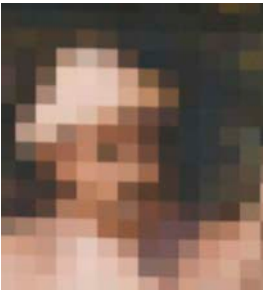
MATERIAL OBJECT

A Rally, 1885

Sir John Lavery, 1856-1941
Watercolor
94.5 x 92.1 cm

LICENCE INFORMATION

£595 – includes £75 (high
resolution image charge)
+ £520 (Product Use: Fine
Art Prints/Posters, print
run up to 3,000, Over 60 x
80 cm)



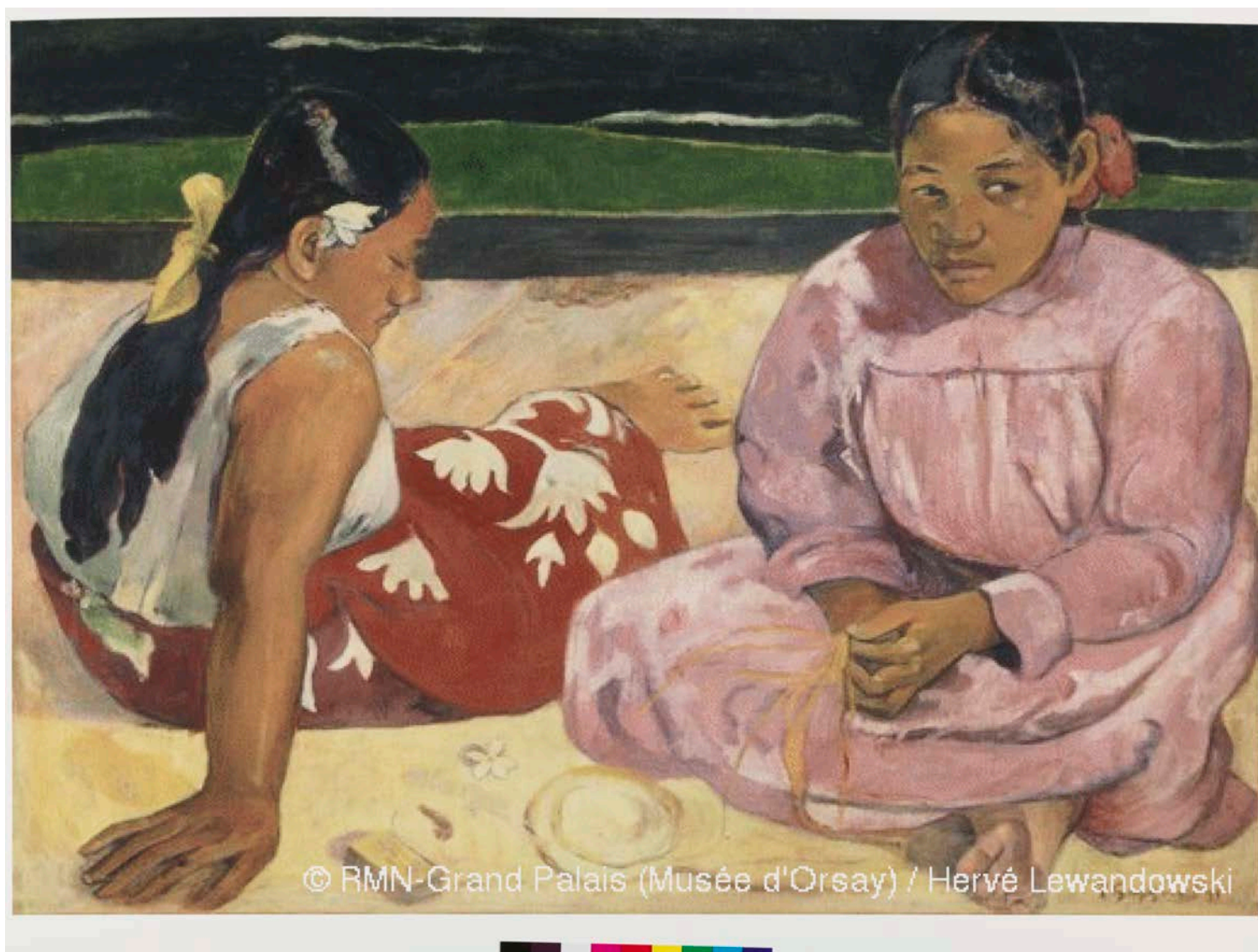
Kelvingrove Art Gallery
and Museum

1916_01_T, unknown

METADATA HIGHLIGHTS

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Lavery, Sir John (1856 - 1941, Irish / Scottish)
1885
watercolour, paper
unframed: 660.4 mm x 635 mm; sight size: 640 mm
x 620 mm
Watercolour entitled 'A rally', by Sir John Lavery,
1885
1916
Exif.Image.DateTime 2009:03:11 16:32:10
Exif.Image.Copyright Nicholas Edgar,
Licensing Manager

Felix Rosenstiel's Widow & Son Ltd
33-35 Markham Street
Chelsea Green
Xmp.dc.rights lang="x-default" Nich-
olas Edgar, Licensing Manager
Felix Rosenstiel's Widow & Son Ltd
33-35 Markham Street
Chelsea Green
Iptc.Application2.Caption A rally
PAINTINGS
watercolour
Lavery, Sir John (1856 - 1941, Irish / Scottish)
1885
watercolour, paper
unframed: 660.4 mm x 635 mm; sight size: 640 mm
x 620 mm
Watercolour entitled 'A rally', by Sir John Lavery,
1885
1916
Iptc.Application2.Copyright Nicholas Edgar,
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33-35 Markham Street
Chelsea Green



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72

DIGITAL SURROGATE

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RGB/gif, 138KB, 200K px
514 x 389 px; 7.139 x 5.403 in; 72 px/in

Musée d'Orsay, Paris, France

MATERIAL SURROGATE

tmp_98d185de110f-d285a24a7f6126502ea4, Musée d'Orsay, 14.268 px/in, 2016. Paul Gauguin (French, 1848-1903), *Femmes de Tahiti (Tahitian Women)*, 1891, Oil on canvas, 69 x 91.5 cm, Musée d'Orsay, Paris

MATERIAL OBJECT

Femmes de Tahiti (Tahitian Women), 1891

Paul Gauguin, 1848-1903
Oil on canvas
69 x 91.5 cm

LICENCE INFORMATION

Price available upon request: agence.photo@rmngp.fr



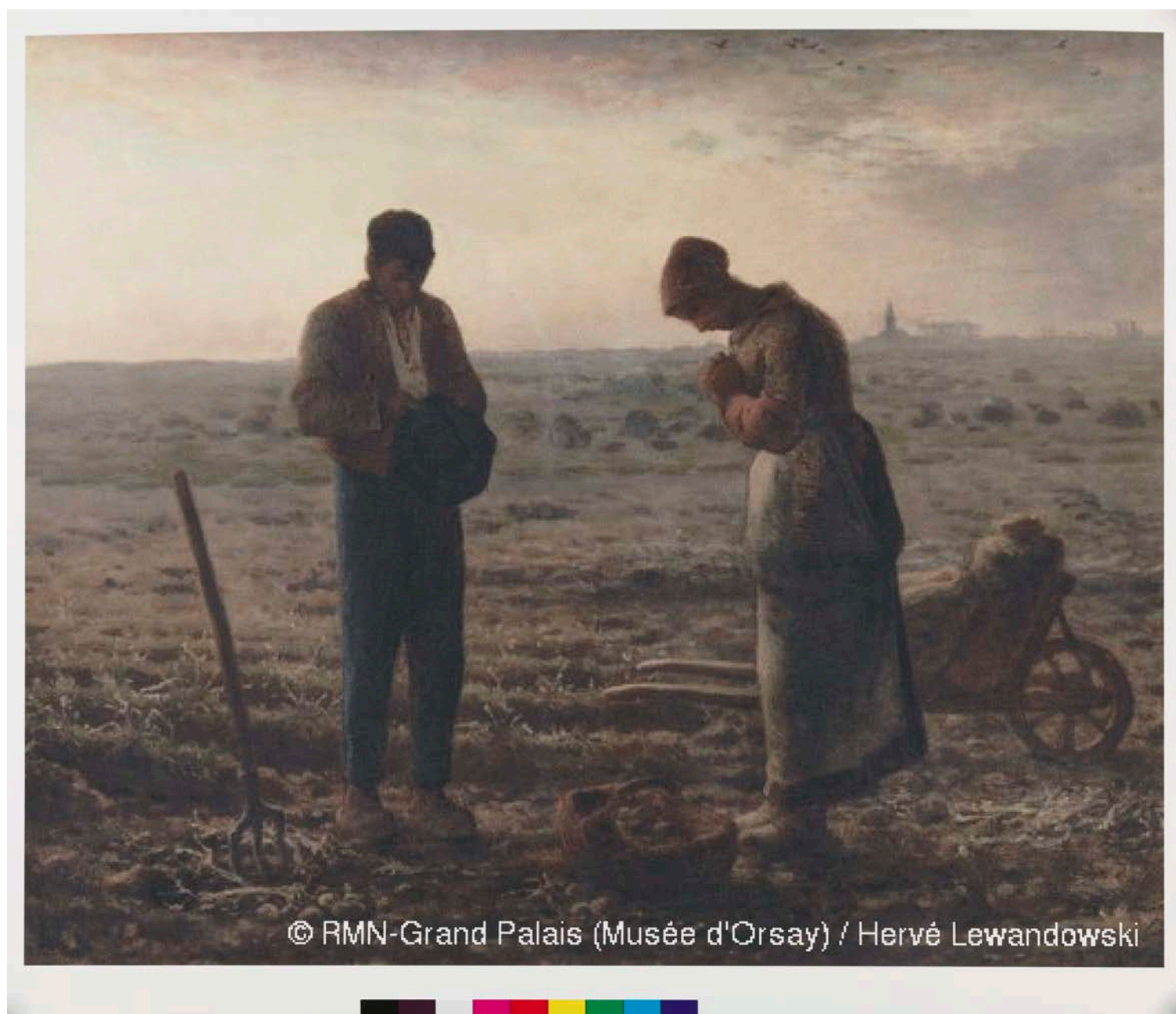
Musée d'Orsay

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73

DIGITAL SURROGATE

tmp_67f91d1d14a-b4a39-ba809e80deef-7fb2, unknown
RGB/gif, 156KB, 226K px
Digital surrogate: 353 x 515 px; 4.903 x 7.153 in; 72 px/in
Material surrogate: 55.5 x 66 cm; 19.781 px/in

Musée d'Orsay, Paris, France

MATERIAL SURROGATE

tmp_67f91d1d14a-b4a39-ba809e80deef7fb2, Musée d'Orsay, 19.781 px/in, 2016. Jean-François Millet (French, 1814-1875), *L'Angélus (The Angelus)*, between 1857 and 1859, Oil on canvas, 55.5 x 66 cm, Musée d'Orsay, Paris

MATERIAL OBJECT

L'Angélus (The Angelus), between 1857 and 1859

Jean-François Millet, 1814-1875
Oil on canvas
55.5 x 66 cm

LICENCE INFORMATION

Price available upon request: agence.photo@rmngp.fr

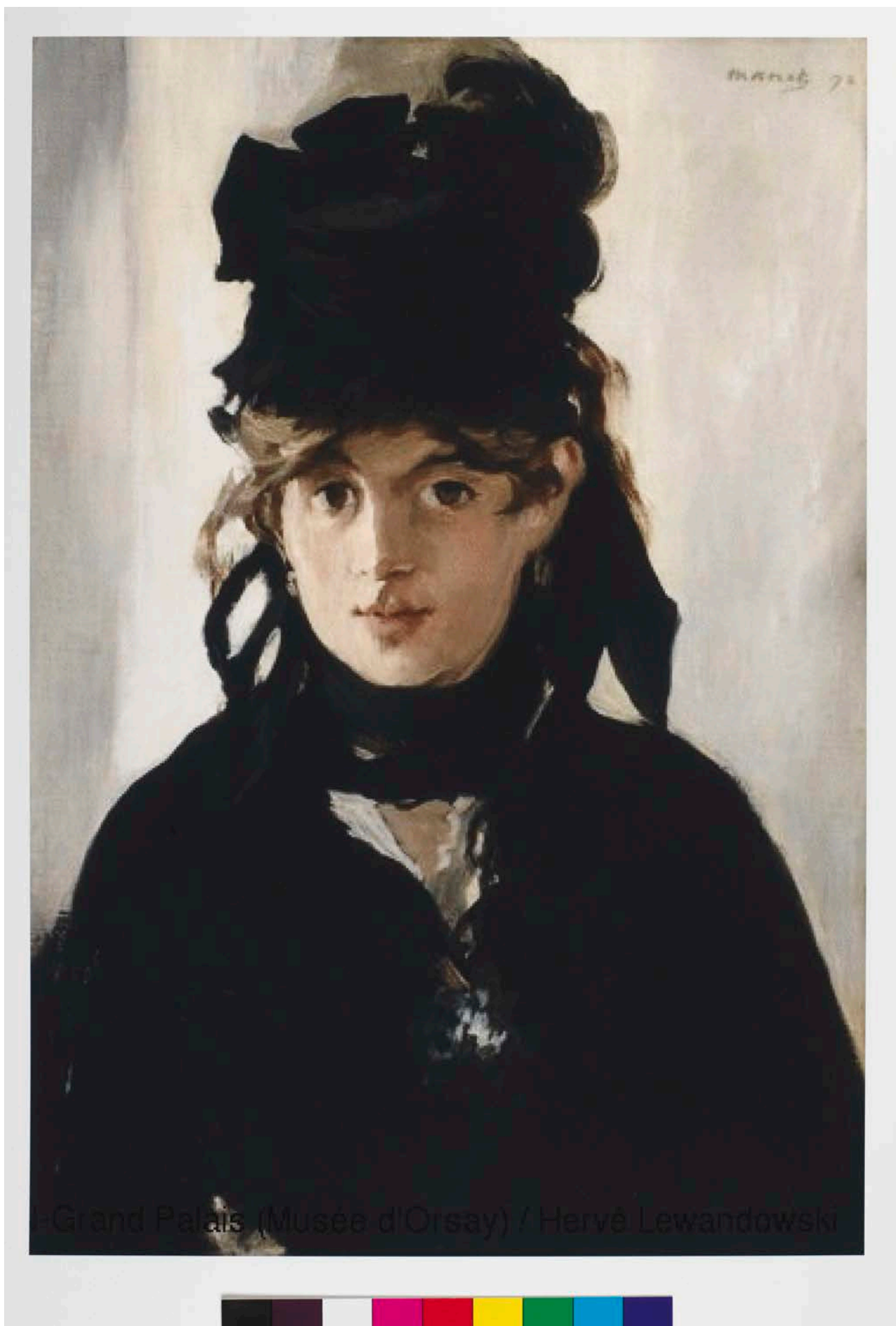


Musée d'Orsay

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74

DIGITAL SURROGATE

tmp_1b96093bc73aa-95da9c6708f558e1cb1, unknown
RGB/gif, 94.2KB, 182K px
514 x 439 px; 7.139 x 6.097 in; 72 px/in

Musée d’Orsay, Paris, France

MATERIAL SURROGATE

tmp_1b96093bc73aa-95da9c6708f558e1cb1, Musée d’Orsay, 23.784 px/in, 2016. Edouard Manet (Manet, 1832-1883), *Berthe Morisot With a Bouquet of Violets*, 1872, Oil on canvas, 55 x 40 cm, Musée d’Orsay, Paris

MATERIAL OBJECT

Berthe Morisot With a Bouquet of Violets, 1872

Edouard Manet, 1832-1883
Oil on canvas
55 x 40 cm

LICENCE INFORMATION

Price available upon request: agence.photo@rmngp.fr



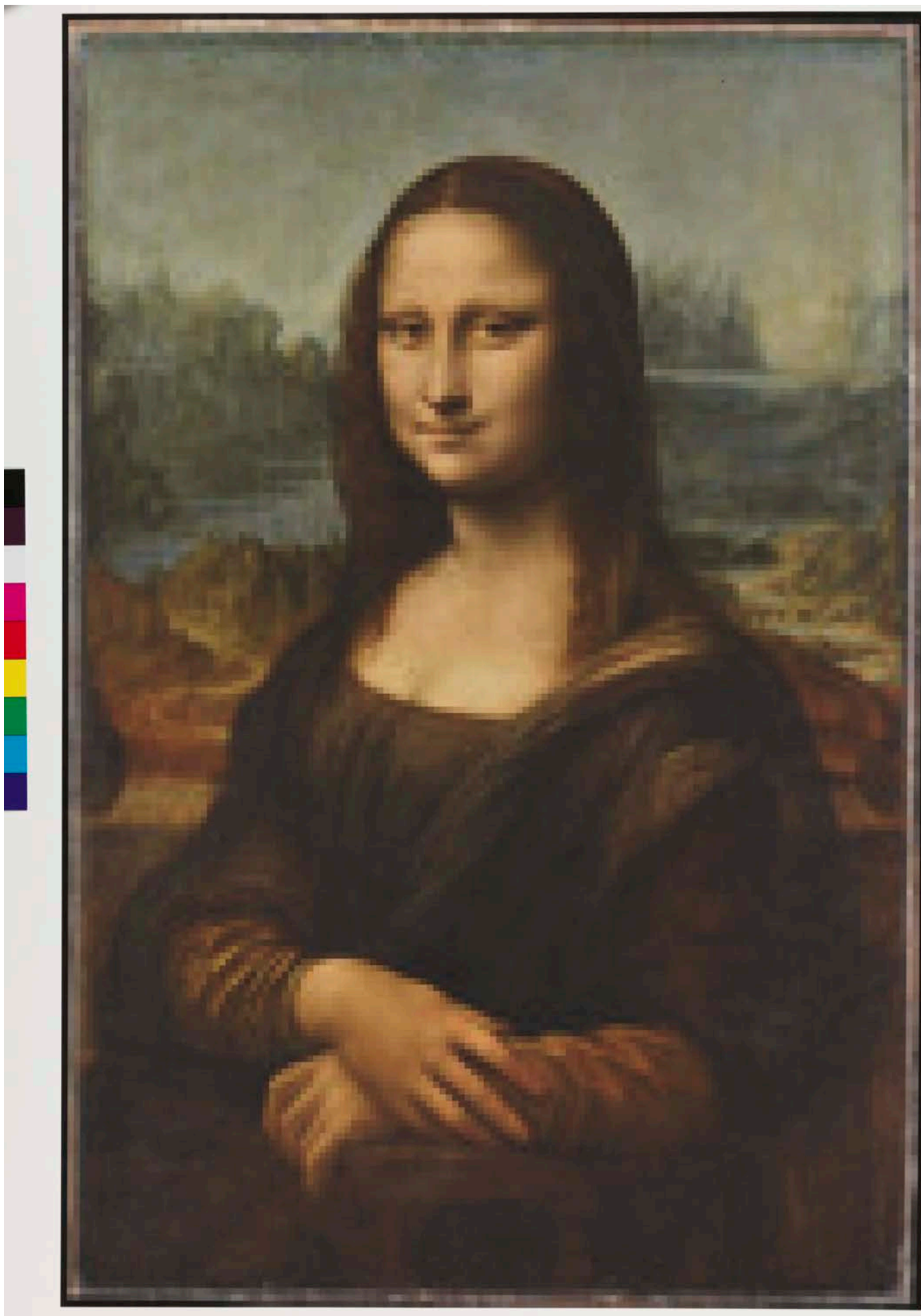
Musée d’Orsay

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This digital surrogate is © RMN-Grand Palais (musée du Louvre) / Michel Urtado

75

DIGITAL SURROGATE

x200_84749_11-564761,
2014
RGB/jpg, 27.2KB, 27.2K px
136 x 200 px; 1.889 x
2.778 in; 72 px/in

Musée du Louvre, Paris,
France

MATERIAL SURROGATE

x200_84749_11-564761,
Musée du Louvre, 6.597 px/
in, 2016. Leonardo da Vinci
(Italian, 1452- 1519), *Mona
Lisa*, created 1503-1519,
Oil, 77 x 53 cm, Musée du
Louvre, Paris

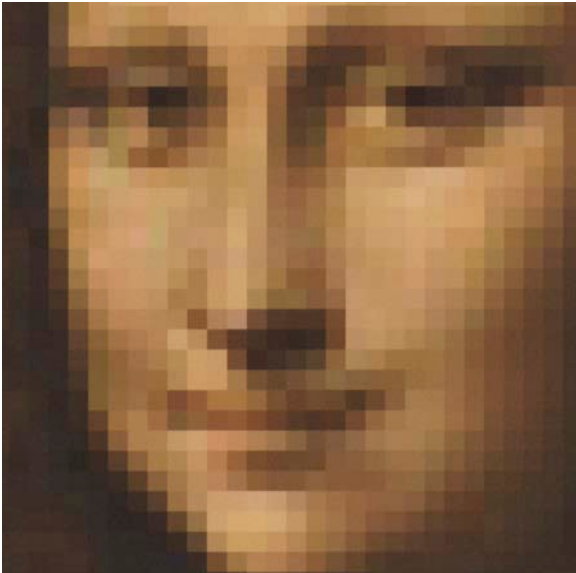
MATERIAL OBJECT

Mona Lisa, created 1503-
1519

Leonardo da Vinci,
1452- 1519
Oil
77 x 53 cm

LICENCE INFORMATION

Price available upon
request: [agence.photo@
rmngp.fr](mailto:agence.photo@rmngp.fr)



Musée du Louvre

x200_84749_11-564761,
created 2014

METADATA HIGHLIGHTS

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Exif.Image.PhotometricInterpretation	RGB
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The copyright status of this digital surrogate is unclear

76

DIGITAL SURROGATE

MPB1-7_Ashburton_Devon_1605-I, unknown
RGB/jpg, 200KB, 470K px
800 x 587 px; 2.667 x
1.957 in; 300 px/in

The National Archives,
Surrey, United Kingdom

MATERIAL SURROGATE

MPB1-7_Ashburton_Devon_1605-I, The National
Archives, 35.034 px/in,
2016. Ashburton, Devon,
1605, *Maps and plans
extracted to flat storage
from records of the Ex-
chequer*, 55 x 43.2 cm, The
National Archives, Surrey

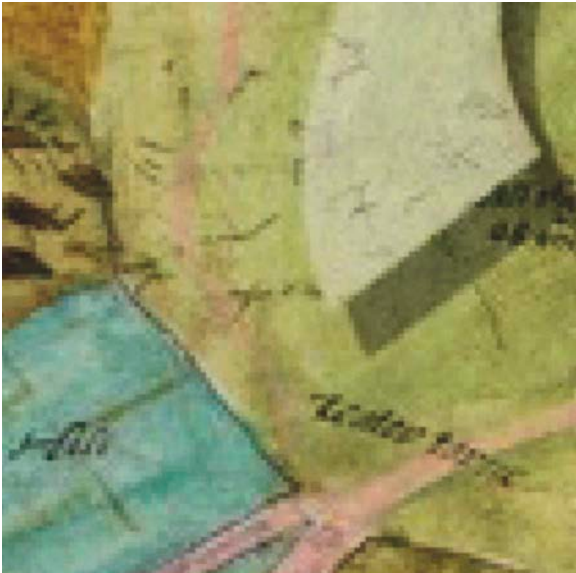
MATERIAL OBJECT

*Maps and plans extract-
ed to flat storage from
records of the Exchequer*

Ashburton, Devon, 1605
55 x 43.2 cm

LICENCE INFORMATION

£85.00 – includes £35.00
(high resolution image
supply fee) + £50.00 (com-
mercial use, props & décor)
via price calculator



The National Archives

MPB1-7_Ashburton_Devon_1605-I,
unknown

METADATA

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77

DIGITAL SURROGATE

2014AA75242, unknown
RGB/jpg, 54.1KB, 257K px
450 x 572 px; 6.25 x 7.944
in; 72 px/in

National Galleries of
Scotland, Edinburgh, United
Kingdom

MATERIAL SURROGATE

2014AA75242, National
Galleries of Scotland,
11.44 px/in, 2016. John
Singer Sargent (American,
1856-1925), *Lady Agnew
of Lochnaw*, 1892, Oil on
canvas, 127 x 101 cm, Na-
tional Galleries of Scotland,
Edinburgh

MATERIAL OBJECT

Lady Agnew of Lochnaw,
1892

John Singer Sargent,
1856-1925
Oil on canvas
127 x 101 cm

LICENCE INFORMATION

Price available upon
request: [copyright@
nationalgalleries.org](mailto:copyright@nationalgalleries.org)



National Galleries of Scotland

2014AA75242, unknown

METADATA

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78

DIGITAL SURROGATE

2012AA41731, unknown
RGB/jpg, 42.5KB, 245K px
450 x 545 px; 6.25 x 7.569
in; 72 px/in

National Galleries of
Scotland, Edinburgh, United
Kingdom

MATERIAL SURROGATE

2012AA41731, National
Galleries of Scotland,
17.893 px/in, 2016. Sir
Henry Raeburn (Scottish,
1756-1823), *Reverend
Robert Walker (1755
-1808) Skating on Dud-
dingston Loch*, about 1795,
Oil on canvas, 76.2 x 63.5
cm, National Galleries of
Scotland, Edinburgh

MATERIAL OBJECT

*Reverend Robert Walker
(1755 -1808) Skating on
Duddingston Loch*, about
1795

Sir Henry Raeburn,
1756-1823
Oil on canvas
76.2 x 63.5 cm

LICENCE INFORMATION

Price available upon
request: [copyright@
nationalgalleries.org](mailto:copyright@nationalgalleries.org)



National Galleries of Scotland

2012AA41731, unknown

METADATA

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This digital surrogate is © National Galleries of Scotland, Edinburgh

79

DIGITAL SURROGATE

2013AA52883, unknown
RGB/jpg, 23.4KB, 152K px
450 x 338 px; 6.25 x 4.694
in; 72 px/in

National Galleries of
Scotland, Edinburgh, United
Kingdom

MATERIAL SURROGATE

2013AA52883, National
Galleries of Scotland,
12.901 px/in, 2016. El
Greco (Domenikos Theot-
okopoulos) (Greek-Spanish,
1541-1614), *An Allegory*
(*Fàbula*), about 1580-1585,
Oil on canvas, 67.3 x 88.6
cm, National Galleries of
Scotland, Edinburgh

MATERIAL OBJECT

An Allegory (Fàbula), about
1580-1585

El Greco (Domenikos Theot-
okopoulos), 1541-1614
Oil on canvas
67.3 x 88.6 cm

LICENCE INFORMATION

Price available upon
request: [copyright@
nationalgalleries.org](mailto:copyright@nationalgalleries.org)



National Galleries of Scotland

2013AA52883, unknown

METADATA HIGHLIGHTS

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This digital surrogate is © National Gallery of Ireland

80

DIGITAL SURROGATE

Breton, 2010
RGB/jpg, 98.3KB, 279K px
649 x 430 px; 9.014 x
5.972 in; 72 px/in

National Gallery of Ireland,
Dublin, Ireland

MATERIAL SURROGATE

Breton, National Gallery
of Ireland, 11.945 px/in,
2016. Jules Adolphe Aimé
Louis Breton (French, 1827-
1906), *The Gleaners*, 1854,
Oil on canvas, 93 x 138 cm,
National Gallery of Ireland,
Dublin

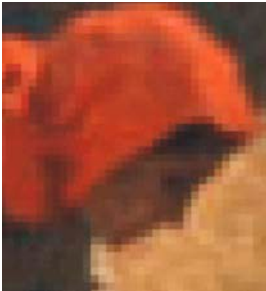
MATERIAL OBJECT

The Gleaners, 1854

Jules Adolphe Aime Louis
Breton, 1827-1906
Oil on canvas
93 x 138 cm

LICENCE INFORMATION

Price available upon re-
quest: [images&licensing@](mailto:images&licensing@ngi.ie)
ngi.ie

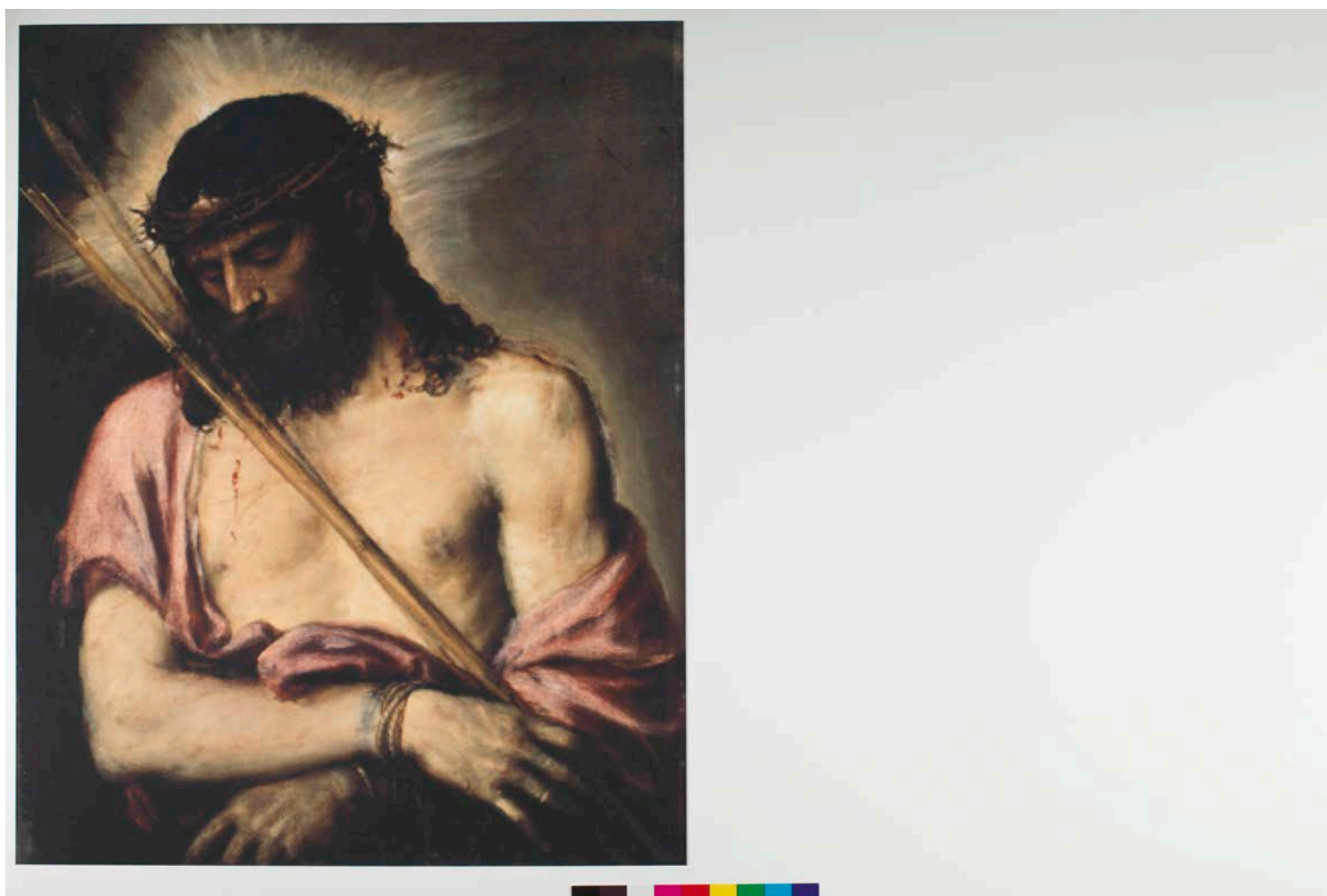


National Gallery of Ireland
Breton, created 2010

METADATA HIGHLIGHTS

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Exif.Image.Artist	Roy Hewson
Exif.Image.Copyright	Photo © National Gallery of Ireland
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Xmp.dc.rights	lang="x-default" Photo © National Gallery of Ireland
Not to be reproduced or duplicated without written consent	
Xmp.dc.creator	Roy Hewson
Xmp.photoshop.Credit	Photo © National Gallery of Ireland
Xmp.photoshop.AuthorsPosition	Photographer
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Iptc.Application2.Caption	NGI 4213
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81

DIGITAL SURROGATE

75 Titian, 2010
RGB/jpg, 158KB, 279K px
649 x 430 px; 9.014 x
5.972 in; 72 px/in

National Gallery of Ireland,
Dublin, Ireland

MATERIAL SURROGATE

75 Titian, National Gallery of
Ireland, 14.88 px/in, 2016.
Titian (Italian, c. 1488-
1576), *Ecce Homo*, 1558-
1560, Oil on canvas, 73.4 x
56 cm, National Gallery of
Ireland, Dublin

MATERIAL OBJECT

Ecce Homo, 1558-1560

Titian, c.1488-1576
Oil on canvas
73.4 x 56 cm

LICENCE INFORMATION

Price available upon re-
quest: [images&licensing@
ngi.ie](mailto:images&licensing@ngi.ie)



National Gallery of Ireland
75 Titian, created 2010

METADATA HIGHLIGHTS

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Exif.Image.Copyright	Photo © National Gallery of Ireland
Not to be reproduced or duplicated without written consent	
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Not to be reproduced or duplicated without written consent	
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Gallery of Ireland	
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Not to be reproduced or duplicated without written consent	



82

DIGITAL SURROGATE

PS01001001001-002389-001-0001, unknown
RGB/jpg, 52.8KB, 176K px
479 x 367 px; 6.654 x 5.097 in; 72 px/in

National Museum of Korea,
Seoul, South Korea

MATERIAL SURROGATE

PS01001001001-002389-001-0001, National
Museum of Korea, 10.414
px/in, 2016. Jo Yeong-seok
(Korean, 1686-1761),
*Painting of a Fishing Boat
(Rendered in the Style of
Tang Yin)*, Joseon Dynasty,
Paper, 31.3 x 43.4 cm,
National Museum of Korea,
Seoul

MATERIAL OBJECT

Painting of a Fishing Boat
(Rendered in the Style of
Tang Yin), Joseon Dynasty

Jo Yeong-seok, 1686-1761
Paper
31.3 x 43.4 cm

LICENCE INFORMATION

For more information
contact Seong Jae-hyeon,
Collection Management
Department hdouble@korea.kr or Jeong Ji-eun,
Collection Management
Department lethe11@korea.kr



National Museum of Korea

PS01001001001-002389-001-0001, unknown

METADATA

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This digital surrogate is © National Palace Museum

83

DIGITAL SURROGATE

img_03, unknown
RGB/jpg, 612KB, 663K px
442 x 1500 px; 6.139 x
20.833 in; 72 px/in

National Palace Museum,
Taipei, Taiwan

MATERIAL SURROGATE

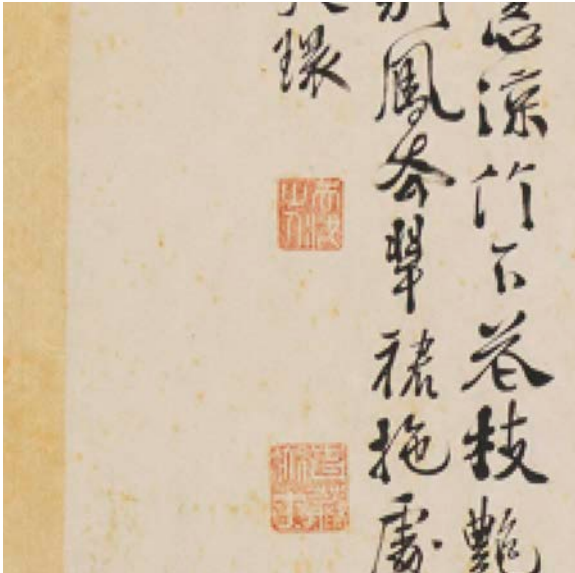
img_03, National Palace
Museum, 28.647 px/in,
2016. Xu Wei (Chinese,
1521-1593), *Peony*, Ming
dynasty, Hanging scroll, ink
on paper, 133.3 x 34.5 cm,
National Palace Museum,
Taipei

MATERIAL OBJECT

Xu Wei, 1521-1593
Peony, Ming dynasty
Hanging scroll, ink on paper
133.3 x 34.5 cm

LICENCE INFORMATION

For more information
visit: [http://www.npm.gov.
tw/en/Article.aspx?s-
No=02002157](http://www.npm.gov.tw/en/Article.aspx?s-No=02002157)



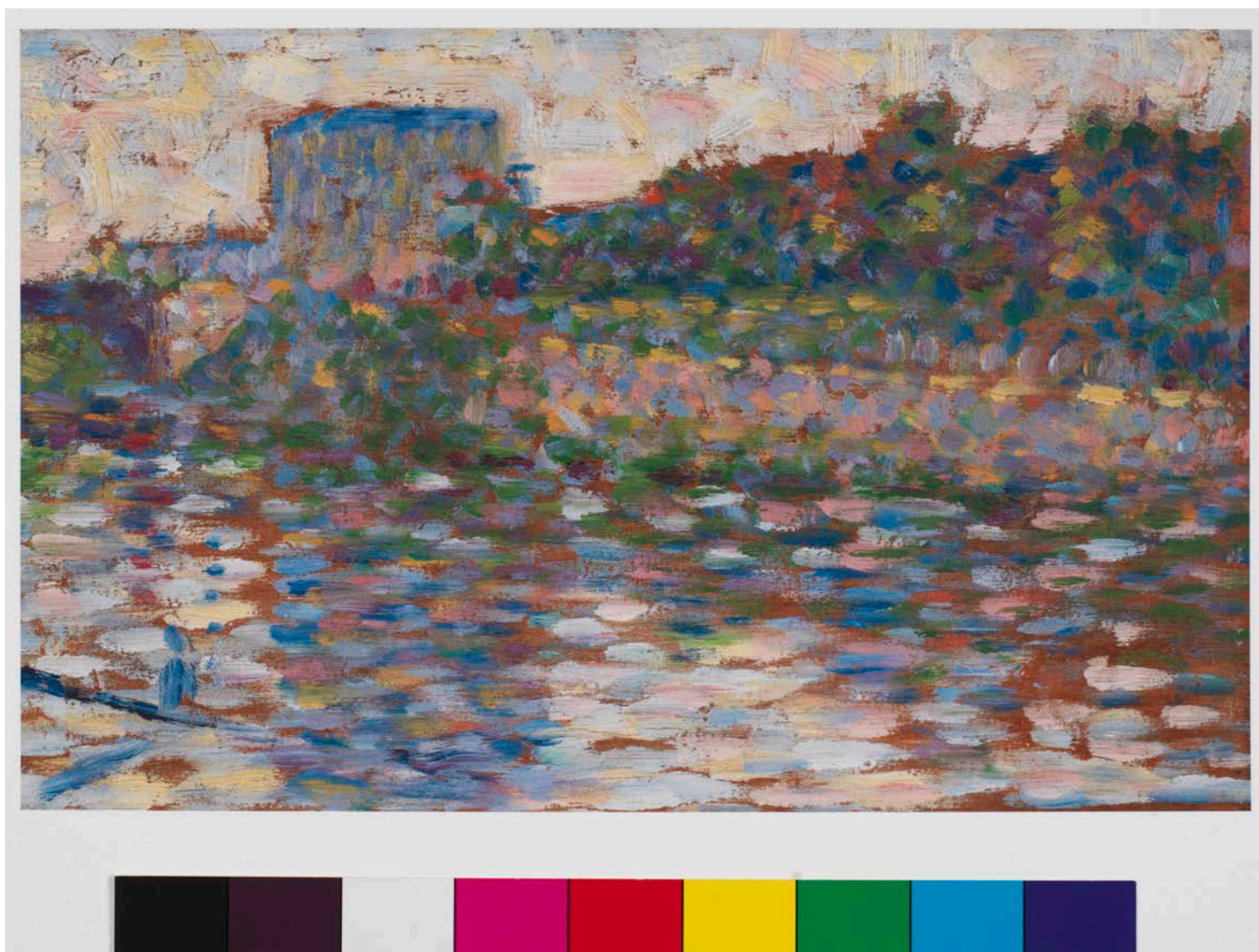
National Palace Museum

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This digital surrogate is © Van Gogh Museum

84

DIGITAL SURROGATE

4707299725672448,
2013
RGB/jpg, 6.017MB, 25.06M
px
6238 x 3988 px; 20.943 x
13.293 in; 300 px/in

Van Gogh Museum,
Amsterdam, Netherlands

MATERIAL SURROGATE

4707299725672448, Van
Gogh Museum, 651.38 px/
in, 2015. Georges Seurat
(French, 1859-1891),
The Seine at Courbevoie,
1883-1884, Oil on panel,
15 x 24.5 cm, Van Gogh
Museum, Amsterdam

MATERIAL OBJECT

The Seine at Courbevoie,
1883-1884

Georges Seurat, 1859-
1891
Oil on panel
15 x 24.5 cm

LICENCE INFORMATION

Price available upon re-
quest: info@pictoright.nl



Van Gogh Museum

4707299725672448,
created 2013

METADATA HIGHLIGHTS

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CiAdrCtry Nederland



This digital surrogate is © Victoria and Albert Museum, London

85

DIGITAL SURROGATE

2013GL0322_2500,
unknown
RGB/jpg, 485KB, 4.668M px
1867 x 2500 px; 6.223 x
8.333 in; 300 px/in

Victoria and Albert
Museum, London, United
Kingdom

MATERIAL SURROGATE

2013GL0322_2500, Vic-
toria and Albert Museum,
204.839 px/in, 2016.
Unknown, *Maharaja Ranjit
Singh*, c. 1835-1840, Paint-
ing, 28 x 21.5 cm, Victoria
and Albert Museum, London

MATERIAL OBJECT

Maharaja Ranjit Singh, c.
1835-1840

Unknown
Painting
28 x 21.5 cm

LICENCE INFORMATION

Price available upon
request: [vaimages@vam.
ac.uk](mailto:vaimages@vam.ac.uk)



Victoria and Albert Museum

2013GL0322_2500, unknown

METADATA

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This digital surrogate is © Victoria and Albert Museum, London

86

DIGITAL SURROGATE

2006AX7282_2500,
unknown
RGB/jpg, 978KB, 4.923M px
1969 x 2500 px; 6.563 x
8.333 in; 300 px/in

Victoria and Albert
Museum, London, United
Kingdom

MATERIAL SURROGATE

2006AX7282_2500, Vic-
toria and Albert Museum,
56.696 px/in, 2016. Grego-
ry F. Brown (English, 1887-
1941), *Furnishing Fabric*,
1922, 112 x 94 cm, Victoria
and Albert Museum, London

MATERIAL OBJECT

Furnishing Fabric, 1922

Gregory F. Brown,
1887-1941
112 x 94 cm

LICENCE INFORMATION

Price available upon
request: [vaimages@vam.
ac.uk](mailto:vaimages@vam.ac.uk)



Victoria and Albert Museum

2006AX7282_2500, unknown

METADATA

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Part Four:

High risk

Belvedere ▪ Bridgestone Museum of Art ▪ Galleria d'Arte Moderna di Palazzo Pitti ▪ Kunsthaus Zürich – The Museum for Modern Art in Zurich ▪ Kunsthistorisches Museum Wien ▪ Musée royaux des Beaux-Arts de Belgique ▪ Museo Nacional Del Prado ▪ Museo Nacional Centro de Arte Reina Sofía ▪ State Hermitage Museum

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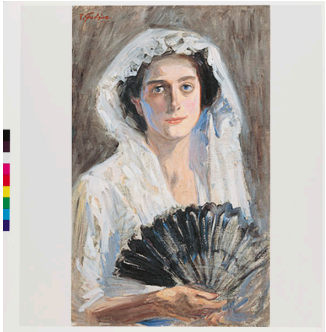
GG_2130_HP, Kunsthistorisches Museum Wien, 4.724 px/in, 2016.
Diego Rodríguez de Silva y Velázquez (Spanish, 1599-1660), *Infantin Margarita Teresa (1651-1673) in blauem Kleid*, 1659, Oil on canvas, 127 x 107 cm, Kunsthistorisches Museum Wien, Vienna. This digital surrogate is © KHM-Museumsverband, Wissenschaftliche Anstalt öffentlichen Rechts.



88



90



89



91



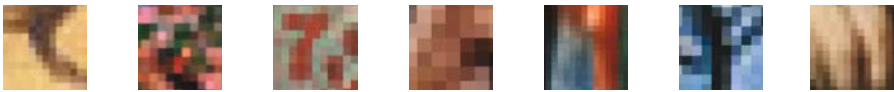
92



93



87

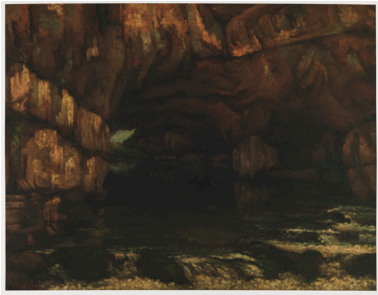


High risk

- | | | | |
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| 87 | 0x2B5EF60803048F4F-394B2EA4A196B7D8, unknown
Belvedere
50 x 20 cm | 91 | heem_b_c903a76738, unknown
Kunsthaus Zürich
63 x 49.5 cm |
| 88 | img_impression05, unknown
Bridgestone Museum of Art
97.8 x 70.8 cm | 92 | hodler_1965_15.456, unknown
Kunsthaus Zürich
100 x 130 cm |
| 89 | img_japanese04, unknown
Bridgestone Museum of Art
63.7 x 42.4 cm | 93 | GG_2130_HP, unknown
Kunsthistorisches Museum Wien
127 x 107 cm |
| 90 | thumb300, unknown
Galleria d'Arte Moderna
158 x 98 cm | | |



99



95



100



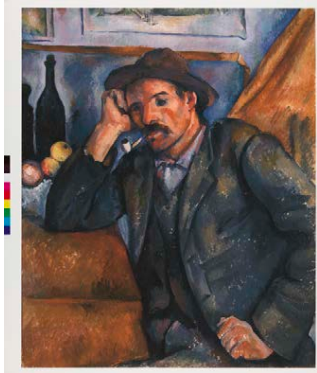
96



94



97



98



High risk

- 94

brueghel-8725dig-l, 2012

Musées royaux des Beaux-Arts de Belgique

38.5 x 51.5 cm
- 95

courbet-5030dig-l, 2012

Musées royaux des Beaux-Arts de Belgique

80 x 100 cm
- 96

685a03811d, 2012

Museo Nacional Del Prado

76 x 70 cm
- 97

AD01915_0, unknown

Museo Nacional Centro de Arte Reina Sofía

51 x 36 cm
- 98

WOA_IMAGE_1, unknown

The State Hermitage Museum

92.5 x 73.5 cm
- 99

WOA_IMAGE_1, unknown

The State Hermitage Museum

21 x 17 cm
- 100

WOA_IMAGE_1, unknown

The State Hermitage Museum

25 x 36 cm

87

DIGITAL SURROGATE

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RGB/jpeg, 98.2KB, 232K px
310 x 750 px; 4.306 x 10.417 in; 72 px/in

Belvedere, Vienna, Austria

MATERIAL SURROGATE

0x2B5EF60803048F4F-394B2EA4A196B7D8, Belvedere, 36.635 px/in, 2016. Gustav Klimt (Austrian, 1862-1918), *Girlfriends (Water Serpents I)*, 1904-1907, Mixing technique, gold on vellum, 50 x 20 cm, Belvedere, Vienna

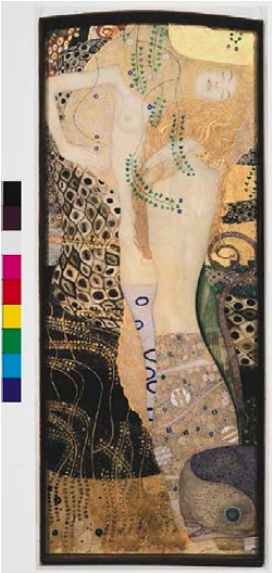
MATERIAL OBJECT

Girlfriends (Water Serpents I), 1904-1907

Gustav Klimt, 1862-1918
Mixing technique, gold on vellum
50 x 20 cm

LICENCE INFORMATION

Price available upon request: public@belvedere.at



This digital surrogate is © Österreichische Galerie Belvedere

Belvedere

0x2B5EF60803048F4F-394B2EA4A196B7D8, unknown

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88

DIGITAL SURROGATE

img_impression05, unknown
RGB/jpg, 82.2KB, 185K px
430 x 430 px; 5.972 x
5.972 in; 72 px/in

Bridgestone Museum of Art,
Tokyo, Japan

MATERIAL SURROGATE

img_impression05,
Bridgestone Museum of
Art, 11.168 px/in, 2016.
Pierre-Auguste Renoir
(French, 1841-1919), *Mlle
Georgette Charpentier
Seated*, 1876, 97.8 x 70.8
cm, Bridgestone Museum of
Art, Tokyo

MATERIAL OBJECT

*Mlle Georgette Charpentier
Seated*, 1876

Pierre-Auguste Renoir,
1841-1919
97.8 x 70.8 cm

LICENCE INFORMATION

Price available upon
request: [publicity@bridge-
stonemuseum.gr.jp](mailto:publicity@bridgestonemuseum.gr.jp)



This digital surrogate is © Bridgestone Museum of Art

Bridgestone Museum of Art

img_impression05, unknown

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CS6 (Macintosh)



89

DIGITAL SURROGATE

img_japanese04, unknown
RGB/jpg, 51.2KB, 185K px
430 x 430 px; 5.972 x
5.972 in; 72 px/in

Bridgestone Museum of Art,
Tokyo, Japan

MATERIAL SURROGATE

img_japanese04, Bridge-
stone Museum of Art,
17.146 px/in, 2016. Fu-
jishima Takeji, 1867-1943,
Black Fan, 1908-1909, Oil
on canvas, 63.7 x 42.4 cm,
Bridgestone Museum of
Art, Tokyo

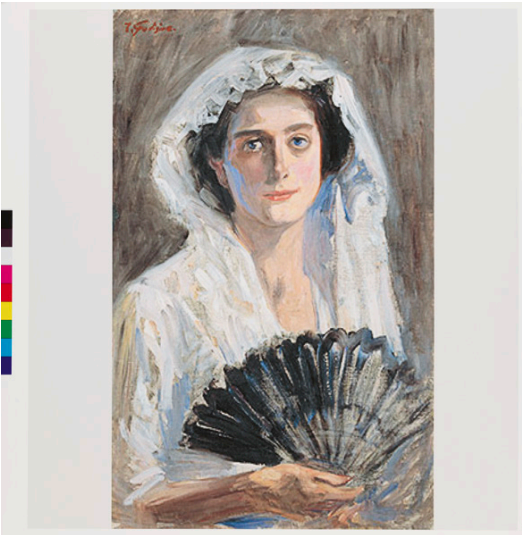
MATERIAL OBJECT

Black Fan, 1908-1909

Fujishima Takeji,
1867-1943
Oil on canvas
63.7 x 42.4 cm

LICENCE INFORMATION

Price available upon
request: [publicity@bridge-
stonemuseum.gr.jp](mailto:publicity@bridgestonemuseum.gr.jp)



This digital surrogate is © Bridgestone Museum of Art

Bridgestone Museum of Art

img_japanese04, unknown

METADATA

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CS6 (Macintosh)



90

DIGITAL SURROGATE

thumb300, unknown
RGB/png, 107KB, 77.3K px
221 x 350 px; 3.069 x
4.861 in; 72 px/in

Galleria d'Arte Moderna
di Palazzo Pitti, Firenze, Italy

MATERIAL SURROGATE

thumb300, Galleria d'Arte
Moderna, 5.591 px/in,
2016. Silvestro Lega
(Italian, 1826-1895), *Il
Canto di uno stornello* (*The
song of the starling*), 1867,
Oil painting. 158 x 98 cm,
Galleria d'Arte Moderna,
Firenze

MATERIAL OBJECT

Il Canto di uno stornello
(*The song of the starling*),
1867

Silvestro Lega, 1826-1895
Oil painting
158 x 98 cm

LICENCE INFORMATION

Price available upon re-
quest: gabfoto@polomuseale.firenze.it



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Attività Culturali Soprinten-
denza Speciale per il Patri-
monio Storico, Artistico ed
Etnoantropologico e per il
Polo Museale della città di
Firenze

Galleria d'Arte Moderna
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91

DIGITAL SURROGATE

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unknown
RGB/jpg, 37.2KB, 267K px
456 x 585 px; 4.56 x 5.85
in; 100 px/in
63 x 49.5 cm; 23.586 px/in

Kunsthau Zürich, The
Museum for Modern Art in
Zurich, Zurich, Switzerland

MATERIAL SURROGATE

heem_b_c903a76738,
Kunsthau Zürich, 23.586
px/in, 2016. Cornelis de
Heem (Dutch, 1632-1695),
Stilleben mit Hummer,
around 1655/56, Oil on
copper, 63 x 49.5 cm, Kuns-
thau Zürich, Zürich

MATERIAL OBJECT

Stilleben mit Hummer,
around 1655/56

Cornelis de Heem, 1632-
1695
Oil on copper
63 x 49.5 cm

LICENCE INFORMATION

Price available upon
request: Cecile Brunner,
brunner@kunsthau.ch



This digital surrogate is © Kunsthau Zürich

Kunsthau Zürich

heem_b_c903a76738, unknown

METADATA

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92

DIGITAL SURROGATE

hodler_1965_15_456,
unknown
RGB/jpg, 61KB, 159K px
456 x 349 px; 6.33 x 4.847
in; 72 px/in

Kunsthau Zurich, The
Museum for Modern Art in
Zurich, Zurich, Switzerland

MATERIAL SURROGATE

hodler_1965_15_456,
Kunsthau Zurich, 8.865
px/in, 2016. Ferdinand
Hodler (Swiss, 1853-
1918), *Evening over the
Lake of Geneva*, 1895, Oil
on canvas, 100 x 130 cm,
Kunsthau Zurich, Zurich

MATERIAL OBJECT

*Evening over the Lake of
Geneva*, 1895

Ferdinand Hodler, 1853-
1918
Oil on canvas
100 x 130 cm

LICENCE INFORMATION

Price available upon
request: Cecile Brunner,
brunner@kunsthau.ch



This digital surrogate is © Kunsthau Zurich

Kunsthau Zurich

hodler_1965_15_456, unknown

METADATA HIGHLIGHTS

./92/hodler_1965_15_456.jpg: (No Exif data found in
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93

DIGITAL SURROGATE

GG_2130_HP, unknown
 RGB/jpg, 54.1KB, 303K px
 Digital surrogate: 505 x
 600 px; 7.017 x 8.333 in;
 72 px/in
 Material surrogate: 127 x
 107 cm

Kunsthistorisches Museum
 Wien, Vienna, Austria

MATERIAL SURROGATE

GG_2130_HP, Kuns-
 thistorisches Museum
 Wien, 4.724 px/in, 2016.
 Diego Rodríguez de Silva y
 Velázquez (Spanish, 1599-
 1660), *Infantin Margarita
 Teresa (1651-1673) in
 blauem Kleid*, 1659, Oil
 on canvas, 127 x 107 cm,
 Kunsthistorisches Museum
 Wien, Vienna

MATERIAL OBJECT

*Infantin Margarita Teresa
 (1651-1673) in blauem
 Kleid*, 1659

Diego Rodríguez de Silva y
 Velázquez, 1599-1660
 Oil on canvas
 127 x 107 cm

LICENCE INFORMATION

Price available upon
 request: info.repro@khm.at



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 umsverband, Wissenschaftliche Anstalt
 öffentlichen Rechts

Kunsthistorisches Museum Wien

GG_2130_HP, unknown

METADATA

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DIGITAL SURROGATE

brueghel-8725dig-l, 2012
RGB/jpg, 156KB, 97.7K px
362 x 270 px; 5.028 x 3.75
in; 72 px/in

Musées royaux des Beaux-
Arts de Belgique, Brussels,
Belgium

MATERIAL SURROGATE

brueghel-8725dig-l,
Musées royaux des
Beaux-Arts de Belgique,
17.854 px/in, 2016. Pieter
II Brueghel (Flemish, 1564-
1638), *Danse de noce en
plein air*, 1607, Oil on panel,
38.5 x 51.5 cm, Musées
royaux des Beaux-Arts de
Belgique, Brussels

MATERIAL OBJECT

Danse de noce en plein air,
1607

Pieter II Brueghel,
1564-1638
Oil on panel
38.5 x 51.5 cm

LICENCE INFORMATION

Price available upon
request: [photo@
fine-artsmuseum.be](mailto:photo@fine-artsmuseum.be)



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Belgique, Bruxelles / photo : J. Geleyns / Ro scan

Musées royaux des
Beaux-Arts de Belgique

brueghel-8725dig-l, created 2012

METADATA

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lptc.Application2.Copyright	Foto Johan Geleyns/ KMSKB
Photo Johan Geleyns/	MRBAB
Photo Johan Geleyns/	RMFAB

95

DIGITAL SURROGATE

courbet-5030dig-l, 2012
RGB/jpg, 118KB, 108K px
367 x 295 px; 5.097 x
4.097 in; 72 px/in

Musées royaux des Beaux-
Arts de Belgique, Brussels,
Belgium

MATERIAL SURROGATE

courbet-5030dig-l, Musées
royaux des Beaux-Arts
de Belgique, 9.322 px/in,
2016. Gustave Courbet
(French, 1819-1877), *Les
sources de la Loue*, 1864,
Oil on canvas, 80 x 100 cm,
Musées royaux des Beaux-
Arts de Belgique, Brussels

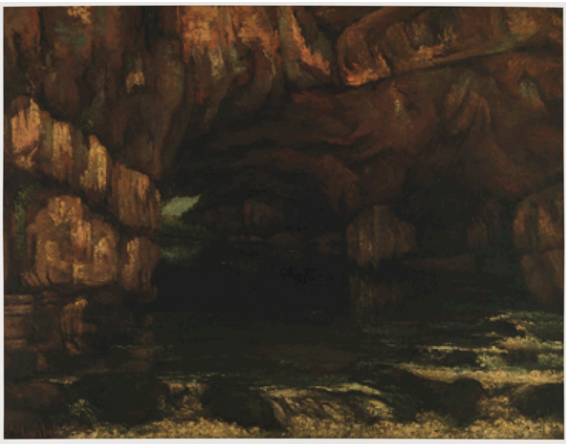
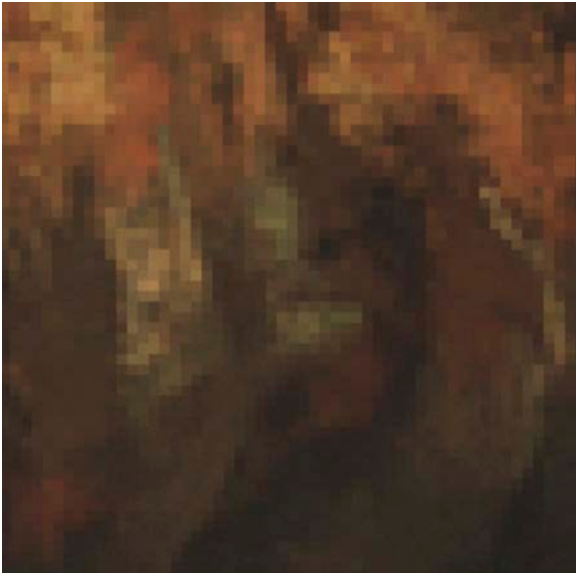
MATERIAL OBJECT

Les sources de la Loue,
1864

Gustave Courbet,
1819-1877
Oil on canvas
80 x 100 cm

LICENCE INFORMATION

Price available upon
request: [photo@
fine-artsmuseum.be](mailto:photo@fine-artsmuseum.be)



This digital surrogate is © Musées royaux des Beaux-Arts de
Belgique, Bruxelles / photo : J. Geleyns / Ro scan

Musées royaux des
Beaux-Arts de Belgique

courbet-5030dig-l, created 2012

METADATA HIGHLIGHTS

Exif.Image.PhotometricInterpretation	CMYK
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Exif.Image.Model	Hasselblad H3DII-39MS - Hasselblad H3D
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Photo Johan Geleyns/	© MRBAB
Photo Johan Geleyns/	© RMFAB

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Photo Johan Geleyns/	© MRBAB
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Iptc.Application2.Byline	Ro scan BVBA
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Iptc.Application2.Copyright	Foto Johan Geleyns/ KMSKB
Photo Johan Geleyns/	MRBAB
Photo Johan Geleyns/	RMFAB

DIGITAL SURROGATE

685a03811d, 2012
RGB/jpg, 101KB, 296K px
520 x 569px; 1.733 x 1.897
in; 300 px/in

Museo Nacional Del Prado,
Madrid, Spain

MATERIAL SURROGATE

685a03811d, Museo
Nacional Del Prado, 19.017
px/in, 2016. Robert Campin
(Flemish, 1375-1444), *The
Annunciation*, 1418-1419,
Oil on oak panel, 76 x 70
cm, Museo Nacional Del
Prado, Madrid

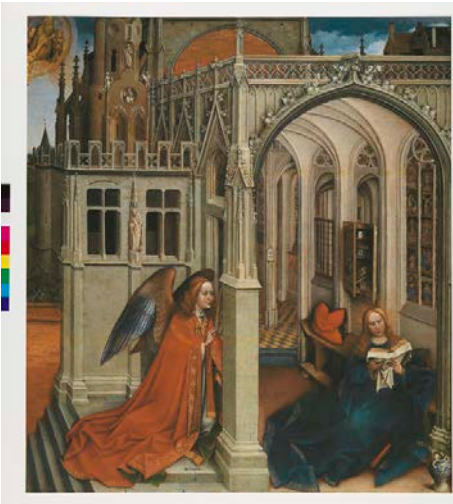
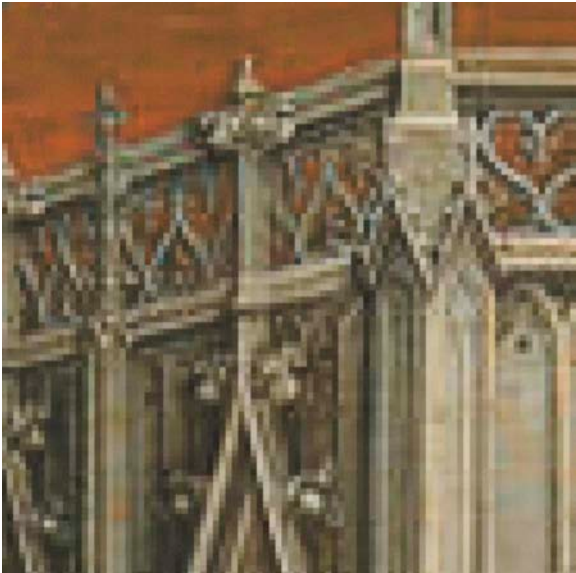
MATERIAL OBJECT

The Annunciation,
1418-1419

Robert Campin, 1375-1444
Oil on oak panel
76 x 70 cm

LICENCE INFORMATION

Price available upon re-
quest: [info@bancodeima-
genesmuseodelprado.com](mailto:info@bancodeima-
genesmuseodelprado.com)



This digital surrogate is © Museo Nacional
Del Prado

Museo Nacional Del Prado
685a03811d, created 2012

METADATA HIGHLIGHTS

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Exif.Image.ImageLength	4724
Exif.Image.BitsPerSample	16 16 16
Exif.Image.Compression	Uncompressed
Exif.Image.PhotometricInterpretation	RGB
Exif.Image.Make	Hasselblad
Exif.Image.Model	Hasselblad H4D-50
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Xmp.iptc.CreatorContactInfo/Iptc4xmpCore:~ CiE-	mailWork federico.perez@museodelprado.es
Iptc.Application2.Byline	Federico Pérez
Iptc.Application2.DateCreated	2012-03-01

97

DIGITAL SURROGATE

AD01915_0, unkno1n
RGB/jpg, 76.1KB, 260K px
433 x 600 px; 6.014 x 8.33
in; 72 px/in

Museo Nacional Centro de
Arte Reina Sofía, Madrid,
Spain

MATERIAL SURROGATE

AD01915_0, Museo
Nacional Centro de Arte
Reina Sofía, 29.882 px/
in, 2016. Rafael Barradas
(Rafael Pérez Giménez)
(Uruguayan, 1890-1929),
Juguetes (Toys), 1919, Oil
on paperboard, 51 x 36 cm,
Museo Nacional Centro de
Arte Reina Sofía, Madrid

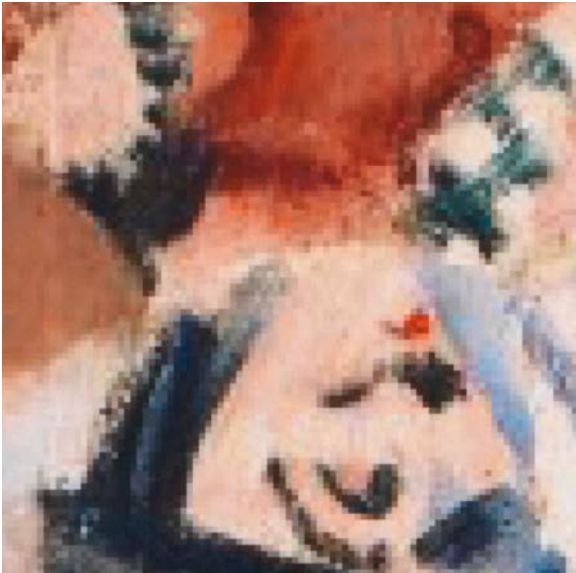
MATERIAL OBJECT

Juguetes (Toys), 1919

Rafael Barradas (Rafael
Pérez Giménez), 1890-
1929
Oil on paperboard
51 x 36 cm

LICENCE INFORMATION

Price available upon
request: archivofotografico@museoreinasofia.es



This digital surrogate is © Museo
Nacional Centro de Arte Reina Sofía

Museo Nacional Centro
de Arte Reina Sofía

AD01915_0, unknown

METADATA

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98

DIGITAL SURROGATE

WOA_IMAGE_1, unknown
RGB/jpg, 1.622MB, 9.956M
px
2810 x 3543 px; 39.028 x
49.208 in; 72 px/in

The State Hermitage
Museum, St. Petersburg,
Russia

MATERIAL SURROGATE

WOA_IMAGE_1, The State
Hermitage Museum, 97.289
px/in, 2016. Paul Cézanne
(French, 1839-1906),
Smoker, between 1890
and 1892, Oil on canvas,
92.5 x 73.5 cm, The State
Hermitage Museum, St.
Petersburg

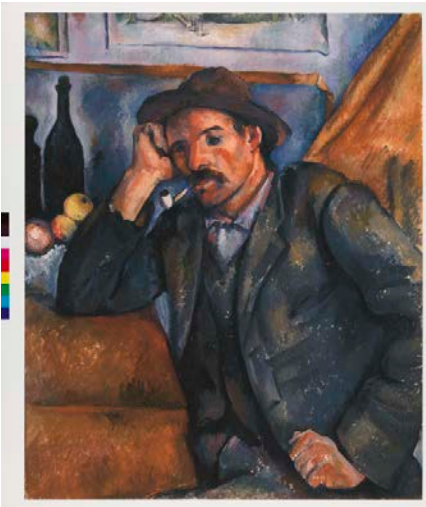
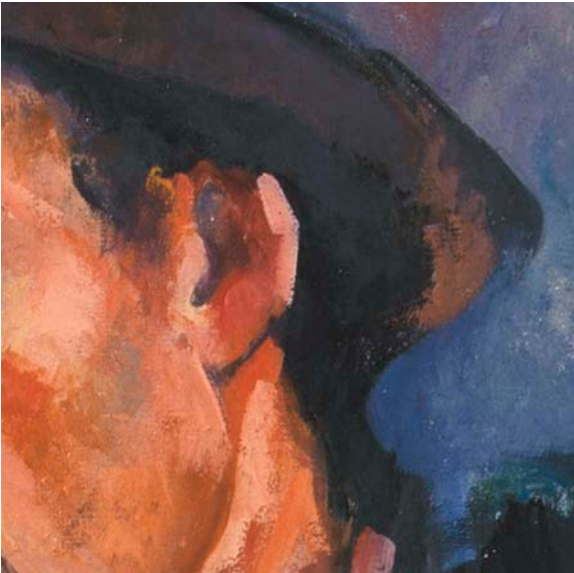
MATERIAL OBJECT

Smoker, between 1890 and
1892

Paul Cézanne, 1839-1906
Oil on canvas
92.5 x 73.5 cm

LICENCE INFORMATION

Price available upon
request: mikliaeva@her-
mitage.ru



This digital surrogate is © The State
Hermitage Museum

The State Hermitage Museum

WOA_IMAGE_1, unknown

METADATA HIGHLIGHTS

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- ./98/WOA_IMAGE_1.jpg: (No XMP data found in the file)
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99

DIGITAL SURROGATE

WOA_IMAGE_1, unknown
RGB/jpg, 1.113MB, 4.965M
px
1960 x 2533 px; 27.222 x
35.181 in; 72 px/in

The State Hermitage
Museum, St. Petersburg,
Russia

MATERIAL SURROGATE

WOA_IMAGE_1, The State
Hermitage Museum,
306.372 px/in, 2016.
Antoine Watteau (French,
1684-1721), *Avenue in a
Park*, c. 1715, Red chalk,
21 x 17 cm, The State
Hermitage Museum, St.
Petersburg

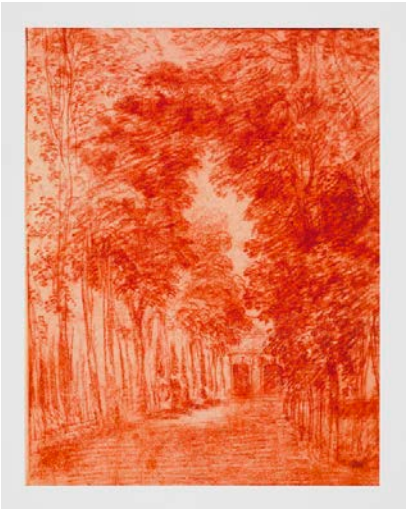
MATERIAL OBJECT

Avenue in a Park, c. 1715

Antoine Watteau, 1684-
1721
Red chalk
21 x 17 cm

LICENCE INFORMATION

Price available upon
request: mikliaeva@her-
mitage.ru



This digital surrogate is © The State
Hermitage Museum

The State Hermitage Museum

WOA_IMAGE_1, unknown

METADATA

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100

DIGITAL SURROGATE

WOA_IMAGE_1, unknown
RGB/jpg, 1.569MB, 10.16M
px
3834 x 2651 px; 53.25 x
36.819 in; 72 px/in

The State Hermitage
Museum, St. Petersburg,
Russia

MATERIAL SURROGATE

WOA_IMAGE_1, The State
Hermitage Museum, 270.51
px/in, 2016. Jan I Brueghel,
(de Fluweelen Brueghel)
(Flemish, 1568-1625),
*Edge of the Forest (The
Flight into Egypt)*, 1610,
Oil on copperplate, 25 x 36
cm, The State Hermitage
Museum, St. Petersburg

MATERIAL OBJECT

*Edge of the Forest (The
Flight into Egypt)*, 1610

Jan I Brueghel, (de Fluweel-
en Brueghel) 1568-1625
Oil on copperplate
25 x 36 cm

LICENCE INFORMATION

Price available upon
request: mikliaeva@her-
mitage.ru



This digital surrogate is © The State Hermitage Museum

The State Hermitage Museum

WOA_IMAGE_1, unknown

METADATA

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./100/WOA_IMAGE_1.jpg: (No IPTC data found in the file)



On following page: DT63, The Metropolitan Museum of Art, 143.833 px/in, 2016. James Peale (American, 1749-1831), Still Life: Basalm Apple and Vegetables, c. 1820s, Oil on canvas, 51.4 x 67.3 cm, The Metropolitan Museum of Art, New York City. www.metmuseum.org. This digital surrogate is © The Metropolitan Museum of Art.







Open GLAM: The Rewards (and Some Risks) of Digital Sharing for the Public Good

Simon Tanner, *King's College London*

INTRODUCTION

The research-led exhibition experiment *Display at Your Own Risk* (Wallace and Deazley 2016) provides an exciting opportunity to ask some fundamental questions regarding the behavioural gaps between 'what we say' and 'what we do' in regard to museum practice and with art/images. Sometimes this is driven, as the exhibition organizers point out, by the gap between institutional policies and public understanding. By selecting 100 digital surrogate images of public domain works for this exhibition and printing them to the underlying artwork's original dimensions this exhibition poses some interesting questions.

Take just one image in this exhibition as an exemplar. *Black Fan* (1908-09) by artist Fujishima Takeji (who lived from 1867-1943) demonstrates the contradictions implicit in every artwork in the exhibition (Fig.1). This digital surrogate image is available through Wikimedia Commons with a statement 'According to Japanese Copyright Law the copyright on this artwork has expired and is as such public domain' and it can be downloaded at a resolution of up to 3,419 × 5,001 pixels (Wikimedia Commons 2016). The material object artwork is physically located at the Bridgestone Museum of Art (Tokyo, Japan) and they make a digital version available through the Google Cultural Institute and their own website each with differing copyright statements and terms of use. Bridgestone's is restrictive¹ and Google's frankly non-existent or very unclear² from a user's perspective. One of the central tenets of the exhibition and its underlying research is thus ex-

Figure 1

img.japanese04, Bridgestone Museum of Art, 17.146 px/in, 2016. Fujishima Takeji, 1867-1943, Black Fan, 1908-1909, Oil on canvas, 63.7 x 42.4 cm, Bridgestone Museum of Art, Tokyo. This digital surrogate is © Bridgestone Museum of Art.

1 '© Bridgestone Museum of Art Terms of Use: Copyrights, trademarks, and other rights: Copyright and other rights to all materials on this website (text, images, and data) are held by the the Museum or by rights holders who have approved the Museum's use of those materials. Copying, downloading, reproduction, or other use of these materials beyond the personal use and other uses expressly permitted by Japanese law, without permission by the rights holder, is prohibited. (Bridgestone Museum of Art, 2016)

2 'We respond to notices of alleged copyright infringement and terminate accounts of repeat infringers according to the process set out in the US Digital Millennium Copyright Act. We provide information to help copyright holders manage their intellectual property online. If you think that somebody is violating your copyright and want to notify us, you can find information about submitting notices and Google's policy about responding to notices in our Help Centre.

Your Content in our Services

Some of our Services allow you to upload, submit, store, send or receive content You retain ownership of any intellectual property rights that you hold in that content. In short, what belongs to you stays yours.' (Google Cultural Institute, 2016)

emplified: that public understanding of copyright, image use and reuse is often at odds with information and understanding formalized by the museums and other memory institutions that provide digital access to works of art.

The Fujishima Takeji digital surrogate demonstrates the importance of transparency. In a behavioural sense, 'transparency' is supposed to imply openness, accountability and clarity of purpose/expectation. However, too often in the arena of intellectual property there is insufficient clarity of meaning or openness. Often transparency here seems more to reflect the translucency of air: visible in large nebulous weather systems, but when held in our own hands utterly invisible and unseeable to all but the expert.

My contribution here will focus upon the importance of sharing art works in the public domain and to provide, I hope, a strong argument for such sharing. Let me clearly state my starting philosophical perspective that all cultural content should be as freely available to as many people as possible. I believe the rewards outstrip the risks. However, as I will explore, what is possible or practicable is a variable factor that can sometimes provide a barrier too high to easily surmount.

In my opinion, this exhibition, curated so expertly by Andrea Wallace in partnership with Professor Ronan Deazley, is a necessary, exciting and intellectually stimulating addition to the body of work that CREATE (www.create.ac.uk) is producing in this domain.

OPENGLAM

'If you have knowledge, let others light their candles with it' is often attributed to Margaret Fuller, the 19th Century Women's Rights Activist. For me, this is what sharing means. Museum/gallery, archive, library (GLAM) and other memory organizations, have the wealth of human knowledge and experience within their collections and I feel it is their responsibility to share that with the world – GLAM should seek to educate, to enlighten, and to entertain. And increasingly, their ability to share is becoming ever more feasible because, just like a candle's flame, when we share digitally we enable lots of other flames to be lit at little cost other than our initial willingness to share. Such sharing activities are epitomized by the Open Access movement, the pioneering CCO 'No Rights Reserved' licences, or Europeana's provision of millions of items from a range of Europe's leading galleries, libraries, archives, museums, and universities (Gray 2012).

Europeana's work demonstrates one of the key themes of the exhibition: it is not enough to be open, it's important to be seen to be explicitly open and easily accessible. When people trade with each other in the digital world they do so for reasons that cannot be neatly wrapped and tied up with an economic theorist's bow. People's trading behaviour is always complex, especially online. In my opinion, all sharing is linked to our innate sense of fairness as expressed in the Golden Rule (Tanner 2014). Some may quibble about whether the economic models underlying digital sharing approaches are fair and affordable. Surely, it is not fair that there are digital 'free riders' out there gaining something for free at the expense of tax payers or private funders? I posit that people are driven much more by values and fairness than price/cost. A fair price is very hard to assess in a digital domain and not often a good indicator of actual value or even of the monetary trade that is happening.

For instance, in my research into American Art Museums I demonstrated that museums do not carry out image creation or rights and reproduction activity because of its profit-

ability and that their pricing was often quite randomly assigned (Tanner 2004). The primary driving factors for providing these services are the values of serving public and educational use and to promote the museum and its collections. In this research I concluded with several searching questions to set priorities in this area:

- Is control over the way an image of an artwork owned by the museum is used, represented and credited the most important priority to the museum?
- Is the fidelity of the image to the original artwork as important a priority as controlling its use?
- Is promotion of the museum's collections as important a priority?
- Does scholarly and educational use of an artwork (especially one in the public domain) ever contradict or supersede the need to control its representation and use?
- Does serving the internal needs of the museum ever contradict or supersede the need to control the representation of artworks?
- Does recouping service costs or making a surplus ever contradict or supersede the need for control? Is there a sum of money at which the museum would relax such control?
- Are providing high fidelity images with an appropriate licence for the museum and the wider communities use more important than how much the service costs to run? (Tanner 2004)

I feel these questions are represented in the digital surrogates (and their host institutions) included in the Display at Your Own Risk exhibition. They still remain relevant as a way for museums to investigate their priorities and strategic perspectives.

THE REWARDS (AND SOME RISKS) IN SHARING

When the Rijksmuseum made over 125,000 art works freely available in high resolution Taco Dibbits, Rijksmuseum Director of Collections, confronted very directly the presumption that art museums must control how reproductions of their collections are used, stating 'If they want to have a Vermeer on their toilet paper, I'd rather have a very high-quality image of Vermeer on toilet paper than a very bad reproduction.' (Segal 2013)

This attitude feeds into a participative user culture that Merete Sanderhoff has divided into themes where people can 'discuss, share, and remix artworks' (Sanderhoff 2013). One of the core benefits of increased digital content (both the digitized and the born digital) has been the consequential growth in content that may be investigated, parsed, reused and mined for research purposes and for the wider public's entertainment, enlightenment and education. A digital resource should thus ideally in a participative world enable a set of functions, namely (but not exclusively):

- Discovering
- Annotating
- Comparing
- Referring
- Sampling
- Illustrating
- Representing (Unsworth 2000)

What this implies for museums is described by Sanderhoff:

Firstly, it implies allowing people to download images and share them on social media like blogs, Facebook, and Flickr, enabling them to discuss and comment images independently of a museum framework. Secondly, images must be available in such high resolution that people can zoom in on minute details, cut out, photoshop and remix the images, place them in new contexts such as PowerPoint presentations, publications, mobile apps, or derivative works like digital mashups, collages, and YouTube videos, and maybe even print them in original or manipulated versions on commercial products like t-shirts, posters, wallpaper, coffee mugs or, indeed, toilet paper. (Sanderhoff 2013)

The major barrier has ceased to be technological. It is policy driven and the policy is often informed by concerns that relate to the intricacies of intellectual property. But, as demonstrated by Display at Your Own Risk, such policies are being conflated for both public domain and copyright-protected works. The change needed is strategic and policy-based in nature. This takes time and energy from the host institutions with the rewards needing to be clear to senior management.

There are examples of how such strategic changes can deliver significant perceived rewards:

- In 2011, Yale University Art Museums made over 250,000 high quality digital images of its cultural heritage collections openly and freely available. John ffrench, Director of Visual Resources at Yale Art Gallery, wrote that 'In the months after Open Access was announced we saw a 40% increase in the number of requests we received through our Rights and Reproductions offices which we feel is a success and clear indicator we made a wise move' (ffrench 2013)
- In March 2012, the US National Gallery of Art launched its new NGA Images site: 'NGA Images [is] a new online resource that revolutionizes the way the public may interact with its world-class collection,' wrote Alan Newman at the US National Gallery of Art. 'Since inception more than 400,000 images have been downloaded' (Newman 2013)
- The Walters Art Museum also makes 19,000 images freely available. William Noel, formerly of the Walters Art Museum wrote: 'The Walters loss of control of its images was essential to its success ... Why did we make our data free and open? So that it would be used. How do I know it's been used? Well, we have 2.5 million views on Flickr in 3.5 years, and that's just one of many interfaces (the most popular; the least archival) by which our images are viewed. And I know our illuminated manuscripts are more available than anybody else's, just by going to a Google image search for an illuminated Gospel, or an illuminated Koran (just for example).' (Noel 2013)
- There are further examples covered in the excellent summaries provided by Kapsalis investigation of impact in OpenGLAM (Kapsalis 2016). One of the most important insights came from Rob Stein in relation to the Dallas Museum of Art: 'As an institution it was important for us to publish our entire collection online ... The reasoning went beyond transparency and openness: we

felt that we needed to more positively and strongly broadcast the fact that the Dallas Museum of Art has a deep and encyclopedic collection.’ (Kapsalis 2016)

These rewards are real and they respond to a desire from the public for authentic, trusted, valued sources of cultural content in the midst of millions of choices. However, at the same time there is a lack of solid evidence or quantifiable research that shows that when memory organizations share content openly and for free that those communities care. I can imagine a cry from OpenGLAM practitioners of ‘But we have millions of online visitors, how can you assert they don’t care?’ and they would be right to be concerned. I am not stating that they do not care whether the museum is available to them digitally – the numbers and growth relating to that are quite clear. But I am stating that at present we have very little information on whether these communities care that the content is:

- free
- open under a CC0 licence (or similar), or
- much larger in volume and extent than would otherwise be available

I am going to be bold enough to suggest that the general public do not care about the current and ongoing revolution in OpenGLAM practice. I assert that to an average person their assumed position is that digital cultural heritage should already be open, because to them this has always been their assumed position.³

In essence, OpenGLAM is running to catch up with attitudes. This revolution is perceived by a net-native demographic as no longer illustrating innovative practice but simply meeting basic expectations. A challenge that memory organizations face is the duality presented by Herbert A. Simon:

[I]n an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it. (1971)

What we take notice of, and the regarding of something or someone as interesting or important, delineates what we consider worthy of attending to and thus defines our economics of attention.

We should also consider economic and age demographics here as significant. The United Nations predicts the global middle class will expand to 3.2 billion people by the year 2020 and reports that the number of older persons has tripled over the past 50 years and will more than triple again over the next 50 (Kharas 2010). Such demographic shifts coupled with the ‘all information is free on the Web’ attitude of millennials and Generation Facebook means that free access to our cultural content is no less than they can expect – from the Web, and a life time of tax contributions.

Free is already seen as the default of fair. This has consequences – our cultural content is going the way of email and becoming a Cinderella service – it’s of importance to every-

³ When I say ‘always’ in a digital context, I mean anything that has happened regularly for the past seven years.

day life, it is a public good, but not something the general public often consider directly paying for. It is becoming a ubiquitous utility, like water, but treated with the same casual indifference as we treat the quality of our air. We only notice its absence or if it's of a poor standard.

In such a climate I suggest the modern memory organization has to make its digital content as freely available as possible – any other route will lead to obsolescence of purpose in the public eye. But the problem will always remain that the self-same public does not particularly care about the economic model expressed by free digital content, while our governments and other funding sources are obsessed with economic consequences.

So when we explore beneficial impacts we find they are often two dimensional: revolving around efficiency and effectiveness. But this leaves many cold and feeling uninvolved. Merely delivering more content faster or for free is not a clarion call that delivers greater funding or engenders excitement in senior decision makers. One reason is that the commercial sector has proven itself consistently better at delivering more and faster content. Stating we have 100,000 historic photographs in our digital collection when Facebook has uploaded 350 million photos every day leaves us at a competitive disadvantage – even if its comparative veracity and worth may be deeply questionable.

The GLAM community have to both justify its digital expenditure to governments and funders, whilst linking their most fundamental mission to concepts that the general public can associate with. In this regard, expressing values and linking them to the communities' values becomes the core mechanism for demonstrating worth and impact. This is the essential underpinning of the suggested approach in the Balanced Value Impact Model (Tanner 2012).

Peter Gorgels from the Rijksmuseum gave a wonderful keynote at the National Digital Forum in New Zealand. He stated about the new Rijksstudio: 'we have 125,000 art works available in high resolution. Anything you want you can do with it ... So now we can say "I love Rijks", the Rijksmuseum was a very dull, traditional museum and now we can say proudly "I love Rijks" ... So if you think about impact then maybe love is the biggest impact.' (Gorgels 2014)

CONCLUSIONS AND CAVEATS

I firmly believe the OpenGLAM movement is now inevitable for many memory organizations; especially those with substantial public funding and public domain collections. As Sanderhoff explains:

In the digital age, the restrictions museums lay on digital images of public domain artworks are standing in the way of education, research, and creative reuse on digital media terms. Effectively, the obligation many museums feel to protect and preserve their collections against any misuse gets in the way of their obligation to educate the public about its collections. (Sanderhoff 2013)

Over twenty years of experience now also shows that even those memory organizations that wish to control how digital surrogates of artworks are used find it nigh on impossible to do so. Even so, I find some caveats that are worth stating in this period of transition.

Whilst the Rijksmuseum digital surrogates contained in Display at Your Own Risk are freely available, their terms still desire that the user acknowledge the source and in the case of a publication would appreciate a copy for their library (Wallace and Deazley 2016). This seems quite reasonable and a further feature of the attention economy – being acknowledged is a major part of the trade that is happening, especially in OpenGLAM contexts. Concerns around moral rights and the responsibility held by a museum remain. In one example from personal experience, a museum⁴ was asked commercial permission to reproduce a public domain digital surrogate of *Madonna and Child* on a music CD cover only to later find the cover would include the words ‘Satanic Santas,’ ‘Nazi Nuns’ and some expletives relating to sexual acts between them. The museum denied permission on the basis of a derogatory use and not wishing to associate the museum name with the work. Whether they were right or wrong is a question that can be debated – how far along the Taco Dibbits ‘anything goes’ spectrum can or should a museum travel? This museum felt a responsibility and a desire to protect moral rights aspects relating to the work (which, in some countries, can extend well beyond copyright even in public domain works). The consequences of such desires have to be addressed in strategic terms for the museum with its community and should not be traded or treated lightly. Not all collections are equally harmless in content, nor the uses of the collection without bias or discrimination that could damage the museum and/or its community.

Another somewhat connected anxiety is that experienced by my own academic subject area: the Digital Humanities. As the digital domain is dominated by works that are out of copyright or in the public domain it creates a temporal hole in the digital resources available; freely accessible scholarly primary source research material is limited by intellectual property laws. Digitization, especially of cultural heritage, brings ‘a curious and unprecedented fusion of technology, imagination, necessity, philosophy and production which is continuously creating new images, many of which are changing the culture within which we live’ (Colson and Hall 1992). In the Digital Humanities I am sometimes concerned that we cannot represent the 20th Century with the same depth and verve as preceding centuries because of this bias in availability. For instance, an estimate for newspapers using very conservative measures suggests ‘there are 2,015,000,000 copyrighted newspaper pages that are for the most part ignored by publicly funded digitisation projects’ (Zarndt et al. 2011). A similar estimate could be made for many forms of cultural content. Whilst not suggesting that commercial interests be set aside, we should be cognisant of the scholarly bias of attention that is produced by a more limited availability for the 20th Century of digitized content available to digital humanities techniques because of copyright.

Added to this concern about basic availability is that of many marginalized communities who were (and still are) denied ownership and curatorship over cultural heritage collections, especially in a dominating white European/North American collection context. Digitization of these biased collections can be open to even wider ‘misappropriation and misunderstandings by outsiders’ (Srinivasan et al. 2009). This concern reflects the extent of funding available for digitization and upon which collections this funding is focused. If the same white European/North American perspective dominating collections are all that are digitized and available to digital humanities techniques because of the

4 I have deliberately withheld the museum name to protect the anonymity of the source.

time-lapse element of copyright protection then they can further exacerbate this bias and loss of ownership.

My caveats therefore are about trust and unconscious bias. These may never be resolved to anyone's full satisfaction but are well represented in Display at Your Own Risk. Is untrammelled use of these digital surrogates OK?, and is the digital djinn so far out of the magic lantern that trying to control it is pointless? Do this exhibition's 100 digital surrogates represent more than a Eurocentric 19th Century curatorial collecting strategy that is being further promulgated by digitization and the constraints of the public domain⁵? Even the Black Fan painting from Japanese painter, Fujishima Takeji, was painted in Italy with the subject's white veil and black fan reflecting a somewhat Spanish influence. Does the inclusion and/or exclusion of metadata build on this bias of availability, attention, and relevance?

This exhibition raises many provoking questions. It opens issues for debate by shining light upon areas otherwise obscured due to the language, implementation, and terminology of intellectual property. Too often there is insufficient clarity of meaning or transparency. This exhibition captures a moment in the transition to openness for digital heritage collections and for OpenGLAM. It is a welcome point of reflection within the constant flux of digital cultural heritage.

Sharing is the key value to be pursued; for what is the benefit gained from keeping digital surrogates under a virtual lock and key? The trust and participation sharing can engender in our communities are worthy factors in service to the ideal of: the most information, to the most people, as freely available as practicable.

No museum that has made the transition to open access for the images in its collection would return to its previous approach. Although challenges are still being resolved, such as the additional workload and the potential uncertainty about where images of works from their collections have been published, museum staff cited the satisfaction that comes from fulfilment of the museum's mission as a tremendous positive. (Kelly 2013)

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[The image shows a fragment of a manuscript page from the Voynich manuscript, featuring dense handwritten text in the characteristic Voynich script. The text is arranged in approximately 18 horizontal lines. Due to the fragmentary nature of the image, the full content cannot be transcribed, but it clearly displays the unique characteristics of the script, such as its complex, often circular or looped forms.]

[illegible]

GLAMourising Intangible Cultural Heritage: When Technology, Copyright, and Cultural Institutions Meet

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INTRODUCTION

Galleries, libraries, archives and museums, also known as ‘GLAM’ institutions, act as the historical keepers for many aspects of humanity’s shared artistic and literary works and are some of our staunchest advocates in the preservation and advancement of culture. In the face of rapid technological development and exponentially spreading globalisation, culture is in dire need of such stewards. However, this stewardship in the Western world, through practice, demand, and even necessity, has taken primarily the role of preserving and protecting objects. As Richard Kurin noted:

Museums are adept at dealing with objects. Objects are accessioned, numbered, measured, catalogued, stored, preserved, conserved, exhibited, repatriated and de-accessioned. While museum curators and professionals fully understand that each object tells a larger story, it is the object itself that is fetishised. (Kurin 2004, 1)

These material objects, including spaces such as landmarks and monuments, would not be considered worthy of such preservation and protection efforts unless the tangible object itself reflected or symbolised intangible cultural heritage. To put it colloquially, ‘there is a lot of intangible stuff underneath the tangible stuff.’ (McCleery et al. 2008, 28)

Defining these immaterial and intangible heritage practices can be difficult, yet is necessary from a legal perspective. The 2003 Convention for the Safeguarding of Intangible Cultural Heritage (the 2003 Convention) defines intangible cultural heritage as:

[T]he practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. For the purposes of this Convention, consideration will

On left: 16456004, The British Museum, 44.399 px/in, 2016. The Rosetta Stone, 196 BC, Part of grey and pink granodiorite stela bearing priestly decree concerning Ptolemy V in three blocks of text: Hieroglyphic (14 lines), Demotic (32 lines) and Greek (54 lines), 127 x 78.74 cm, The British Museum, London. This digital surrogate is © Trustees of the British Museum, CC BY-NC-SA 4.0.

be given solely to such intangible cultural heritage as is compatible with existing international human rights instruments, as well as with the requirements of mutual respect among communities, groups and individuals, and of sustainable development. (A.2(1))

Intangible Cultural Heritage (ICH) can consist of traditional knowledge, songs, craftsmanship, dance, and other practices, as well as the associated cultural artefacts and spaces.¹ These examples are simply illustrative of the overarching concept of cultural memory and useful for contextualising why widely varying global living heritage passed generationally must be allowed to organically evolve. Such evolution, however, often defies the process of identification so desirable in the realm of legal protections.

National legal measures protect ICH like cultural memory once it becomes fixated in a material form. In the UK, the Copyright, Designs and Patents Act 1988 (the CDPA) bestows copyright upon authors in the form of time-limited exclusive rights in relation to fixed, original literary or artistic works. In some cases, ICH naturally lends itself to manifestation in these forms, such as a transcribed oral history or recorded dance. New ICH can also develop from and around these tangible objects. However, rendering intangible expressions in tangible form for copyright or other preservation and protection purposes can lead to a loss of meaning as a living practice for the relevant communities. Indeed, the very process of this materialisation counteracts the purpose of protection efforts. In these cases, ossification can prevent access to the authentic intangible expression by privileging a single moment in which the ICH has been captured and then represented to the public. Safeguarding access to genuine manifestations of ICH is key to enhancing public knowledge and providing the opportunity for practicing communities to influence the direction of cultural practices.

'Access' to ICH, in the context of artistic and literary works, will be shaped by relevant national laws, like the CDPA. When fixation occurs, qualifying works are protected by copyright law for a time-limited (albeit lengthy) period of time. After copyright expires, the work enters the public domain and in theory is free to be used by all. However, when cultural institutions digitise works in the public domain, a new copyright may arise in the digital surrogate that has been created. Moreover, once these digital surrogates are made available online, additional restrictions to access and use can be applied by the cultural institution through its website terms of use. Essentially, a *new* type of heritage is arising in these new traditions and professional practices in dealing with digital surrogates of these public domain works of art.

Even with many new initiatives to make artistic and literary cultural heritage material accessible online, '[t]his digitally available 10% represents an astonishing 300 million objects, reflecting the many facets of European culture captured in books, paintings, letters, photographs, sound and moving image. Only one third of that (34%) is currently available online, and barely 3% of that works for real creative reuse (for example in social media, via APIs, for mash-ups, etc.). We believe that if we can make this material avail-

¹ During negotiations for and since the Convention's adoption, scholars expressed concern that defining ICH in codified documents could further perpetuate existing cultural divisions. 'The use of the terms 'indigenous' and 'traditional' help to perpetuate a historical distinction between (tangible) Western and (intangible) non-Western cultural heritage. We therefore support a definition of intangible heritage that does not limit instances to the 'traditional' or 'indigenous', or even to cultural forms that have already been passed on from 'generation to generation'.' (Deacon et al. 2003, 33).

able online, and preferably in open formats, we'll start to see the benefits for society and the economy.' (Europeana 2015, 9). No matter the technological and legal hurdles, it is important they are addressed and overcome as there is a high social and economic value return from making digital materials sharable (Tanner 2012). Beyond current value, future cultural heritage, both tangible and intangible, depends on the ability to learn from and develop shared cultural heritage.

This essay will proceed by examining more carefully the role of ICH in the GLAM sector and how it is viewed and processed by heritage practitioners. Next, it will propose 'tangification' as an approach to conceptualising ICH in an intellectual property and cultural heritage framework. Last, it will review some recent developments in ICH in the United Kingdom. The paper concludes by arguing that a greater understanding and acknowledgement of ICH within the GLAM sector would empower cultural institutions to enhance the public experience of our shared cultural heritage.

INTANGIBLE CULTURAL HERITAGE IN THE GLAM SECTOR

The GLAM sector is extremely adept at preserving as well as generating funding for the preservation of tangible heritage and immovable heritage, like monuments. Many of these modern heritage notions were furthered by the 1972 World Heritage Convention, which described cultural heritage as:

monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science; – groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; – sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view. (Art.1(1))

Research has indicated several compounding scenarios that might explain why the safeguarding and celebration of intangible heritage is not so well served by Eurocentric conceptions of world heritage: (1) the institution believes country has no ICH (Smith and Waterton 2009); (2) the institution is unclear what ICH is (Stefano 2009, 117); (3) the institution is not equipped or suited to safeguard ICH (Kurin 2004); or (4) the institution does not wish to pursue additional measures to safeguard ICH. (McCleery et al. 2009, 9)

In the first instance, nations may not perceive their rich history and heritage as qualifying as ICH, which might trickle down to institutional attitudes. This atmosphere is indicative of or has also fostered an 'authorised heritage discourse' (AHD) surrounding artistic and literary works as well as ICH and could determine what is considered an acceptable and valuable form of heritage within the profession, while discounting others (Smith 2006). An English Heritage representative interviewed by Smith and Waterton stated 'What are the obvious examples you could come up with? Morris Dancing? As intangible heritage and so on? The U.K. has no intangible heritage.' (Smith and Waterton 2009, 297). Thus, even cultural institutions that do believe the country has ICH to protect may be swimming upstream against prevailing notions of 'worthy' heritage.

In the second instance, these responses might reveal that institutions are simply unclear on exactly *what* constitutes ICH; its nebulous nature is fundamental to ICH, and precise definitions have eluded the drafters of both legal definitions and the 2003 Convention. These uncertainties in formal definitions impact how the sector shapes informal practices when engaging with ICH. One practitioner reported he preferred to call the ICH associated with his tangible objects ‘living history’ as he was unsure how to define ICH (Stefano 2009). Despite linguistic vagary, ICH does have established practices and guidance available in order to allow free evolution as a living heritage; using common terminology increases the likelihood that the cultural institution can implement the best available safeguarding practices.

Third, even if an institution recognises ICH as important to protect, internal structures might impede the institution’s efforts. This is especially true, considering most traditional Western GLAM institutions are designed to preserve and protect tangible objects as a static representation of an idea or a moment in history, rather than fluid representations of concepts both intangible and immaterial. In addition to the methodological and sociological difficulties in preserving ICH associated with these objects (Kurin 2004), limited financial and human resources might curb efforts and prevent an institution from expanding or shifting its focus to encapsulate ICH.

Finally, an institution might choose not to undertake any ICH protection efforts at all; in this respect, the influence of the fact that the UK is not a party to the 2003 Convention should not be overlooked. English Heritage reported in 2009 that ‘The UK looked at the convention and concluded that a) it would be very difficult to monitor and enforce, and b) it duplicated efforts that the UK was already undertaking.’ (McCleery et al. 2009, 9). If cultural institutions adopt this perspective, they may choose to make no additional efforts to safeguard ICH or to explore the surrounding issues.

When ICH is not taken into account by GLAM, unforeseen issues can arise surrounding even large and well vetted cultural heritage projects. ICH is traditionally seen as encapsulating historical cultural memory, but it is equally important to recognise that instances of contemporary cultural memory also qualify as ICH. Take the recent example of Punk London, a large-scale collaboration amongst major UK cultural institutions celebrating the 40th anniversary of punk culture in London (Punk London n.d.). Billed as a celebration of punk, its features include live music shows, exhibitions, digital materials, and temporary tattooing at museums and music venues across London.

This collaborative institutional effort prompted a strong backlash from some of those closest to the movement, including Joe Corr , son of Sex Pistols manager, the late Malcolm McLaren, who stated: ‘The Queen giving 2016, the year of punk, her official blessing is the most frightening thing I’ve ever heard. Talk about alternative and punk culture being appropriated by the mainstream.’ (Jonze 2016). While the Queen has not officially backed 2016 as the year of punk, the effort is supported by London Mayor Boris Johnson and the Heritage Lottery Fund. Outraged by this conformist commodification of the genre, Corr  has claimed he will burn £5 million of punk memorabilia in protest. Punk, as a social movement and cultural practice defined by anarchy, may be in danger of becoming a tourist attraction as it is ‘proving to be a lucrative marketing opportunity.’ (Hunter-Tilney 2016). One headline asks: ‘Has it come to this? Punk as cultural heritage?’ (O’Hagan

2016). Punk London provides a compelling example of an unfortunate disconnect between GLAM and communities, one that will not be bridged until ICH and phenomena like tangification are taken into greater account and are similarly valued.

This disconnect presents another dilemma: what is to come of ICH that evolves within the practicing community as well as any ICH of that community that is deemed antithetical to the GLAM sector's conception of ICH? This dilemma has revealed the tension between the more general common heritage of humankind and that of the specific practicing community.² On the one hand, common heritage of humankind takes the position that heritage belongs to humanity as a global culture; thus, preserving and protecting records of cultural practices is of utmost importance, regardless of any continuity of practice in the community. On the other hand, a practicing community approach would enable ICH to evolve organically and continue (or discontinue) to exist so long as the practice in question benefits those in that particular community. It remains an unanswered question as to whether one approach should take precedence over the other.

Technology has only complicated these issues further. Digitisation and online access have provided faster and easier ways to share and grow new communities. However, access and recourse to collections have *de facto* made GLAM the arbitrator of digital availability of culturally valuable works already in the public domain. This access arbitration could take many forms, such as limitation of cultural practice through terms and conditions imposed on the material objects, which might increase if ICH associated with the material object is not explicitly considered.

TANGIFICATION: CREATING NEW INTELLECTUAL PROPERTY FROM INTANGIBLE CULTURAL HERITAGE

Since the late 1980s, intellectual property protection has increased in scope and duration domestically through schedules and statutory instruments as well as in global international agreements backed by trade sanctions, namely the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs). Cultural activity and production reflect the impact of social and legal systems that disproportionately reward tangible manifestations of cultural heritage, such as built heritage or fixed works suitable for copyright protection; however, there are always intangible facets to the tangible. When ICH is altered to a static form, this 'tangification' process converts ICH and other intangibles into a form that can then be owned. This process ossifies living heritage into a material embodiment, which may be developed into a generic saleable good as opposed to an existing cultural practice. Tangification is a necessary, though not sufficient, precursor to propertisation, an additional alteration which can stagnate or devalue ICH. This progression or transformation shapes the ICH in an (often) nondeliberate way through rewarding tangible manifestations with legal protections and social reinforcement.

Using terminology like 'tangification' shifts the focus from copyright protection to the precondition for intellectual property, as most copyright regimes require fixation. Once culture is formalised and owned as intellectual property, it may be converted to a form suitable for sale on the economic market, known as commodification. Products on the

² In 'The Common Heritage of Mankind,' White explores shared heritage through the lens of historical development of international treaties. Many modern authors now use 'humankind' rather than 'mankind' (White 1982).

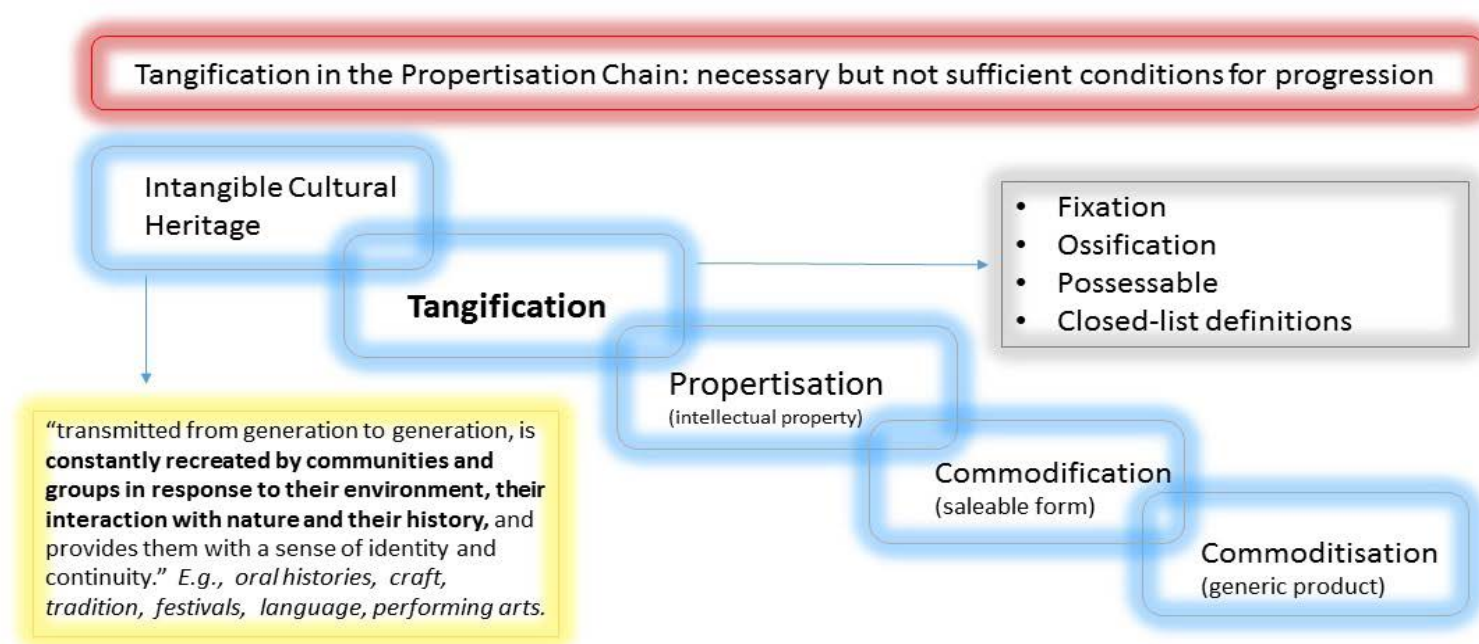


Fig. 1

Figure 1

The Propertisation Chain, which illustrates the process surrounding the concept of 'tangification' and its relationship to economic and commercial market through intellectual property.

market are exposed further to possible commoditisation, and risk becoming a generic saleable form. This commoditised form is bereft of the intangible traits that enrich and generate value for creative and cultural ICH.

Naturally, community participation is one way to safeguard ICH and secure its continuation for future appreciation. Yet, even when community participation is strong and the driving factor of a safeguarding effort, participation alone is an insufficient protective measure and is subject to the same risks of tangification. As McCleery points out:

At the other end of the 'participation' scale, the possible repercussions on ICH practices 'safeguarded' to the point of distortion through commodification is something which should be considered. 'Edinburgh's Hogmanay' (see also 2.3.1 Case studies) is a commercially driven 'festival' or collection of events taking place over the New Year period. (McCleery et al. 2008, 11)

THE PROPERTISATION CHAIN

Figure 1 illustrates the process surrounding the concept of 'tangification' and its relationship to the economic commercial market through intellectual property.³

STAGE ONE: TANGIFICATION

Tangification is the natural result of immaterial aspects of culture taking a material form. While set in a context for ICH moving through the chain, the full process is a fairly mun-

³ These are necessary, but not sufficient steps. Not all ICH will be tangified; not tangified ICH will be propertised; not all property will become commodified; not all commodified property will become a commodity. However, each step is a necessary prerequisite to the next.

dane occurrence for items that are already tangible pieces of property. Importantly, none of these steps in the tangification chain are inevitable. Taking more familiar examples from the realm of patents, ordinary objects entering the market – from curved television screens to uniquely designed sunglasses – are exposed to the same phenomenon but would enter and move forward from the stage of propertisation. That is, these items do not undergo any tangification: while they have both intangible and tangible forms in an intellectual property sense, they are intended at conception to exist as tangible products. No change in their nature conforms to the demands of intellectual property protection, nor was it the maker's intention to create a tangible, individually possessable object that defines or incorporates the cultural identity of a group.

However, ICH must undergo a transformation, however subtle, to become protectable as intellectual property. This 'tangification' transmutes ICH from a collective, evolving practice in response to a community and environment passed through generations into something that is sufficiently fixed such that it can be owned. This process results in the loss of essential qualities of ICH, intentionally or unintentionally. Intentional alteration in form could be motivated by the desire to gain intellectual property protection. By contrast, a natural evolution of ICH might automatically gain copyright protection upon meeting the subject matter and fixation requirements. For instance, an oral history could be recorded for either safeguarding or copyright purposes, or its community members might decide the written record is important as a part of the storytelling process. Each act results in a fixation through tangible forms.

STAGE TWO: PROPERTISATION

Prior to propertisation, the ICH must take a tangible form for fixation as required by copyright. ICH does not shed all intangible aspects; it is intangible intellectual property that is owned by an author and not its physical manifestations. Thus, the ICH can *still* become tangible in the sense that it transitions into fixed form. This fixation is a prerequisite for intellectual property protection under the CDPA.

STAGE THREE: COMMODIFICATION

What follows is the more commonly known process of commodification: a transformation of noncommercial goods, services, activities, ideas, or even a person,⁴ into a product with economic value, intended for exchange. This transformation allows the property to be sold on the commercial market.

STAGE FOUR: COMMODITISATION

At this stage of the chain, commercial popularity and market forces might dictate that commodified ICH evolves into a generic commodity. All of the benefits that come along with cultural richness and identity are removed when generic products emerge. Rather than emerge as discrete phenomena, commoditisation must be a successor of commodification, even if the commodification is subtle and momentary. As such, the subject item, ICH, or person must first become commercial before becoming generic in trade.

⁴ Commodification of a person might be more accurately defined as commodification of a persona, as in the instance of celebrity. This conceptual framework does not consider human slavery as a part of the argument.

Alerting the GLAM sector to how and when ICH becomes tangified – as well as its effects on cultural heritage – could raise awareness of the importance of ICH within the sector. The sector's professional goals and standards often protect works of cultural importance from private ownership and from commodification and commoditisation in order to preserve shared access and guarantee preservation for future generations. Tangification is a useful concept for describing how these preservation practices might lead to ossification, rendering a stagnant echo of the evolving community heritage and identity. Similar processes can be traced in *Display At Your Own Risk* as digital surrogates come to be viewed as new assets independent of their material object, which then themselves continue down the propertisation chain toward commodification and commoditisation.

New ICH can develop within the sector surrounding or integrating cultural objects into existing GLAM practices, so the impact on shared heritage can be great. Where these practices limit access to cultural heritage, the social and economic benefits that might develop surrounding the material objects and their digital surrogates go unrealised.

DEVELOPMENTS WITH ICH AND GLAM IN THE UK

The United Kingdom has yet to sign the 2003 Convention, the primary international treaty on ICH. The 2003 Convention requires parties to create an inventory of ICH, promote education and awareness of ICH, and to implement 'safeguarding' measures (Art.1). Drafters chose the term 'safeguarding' instead of 'protecting' to encompass the particular nature of ICH as an evolving living heritage. Safeguarding includes 'measures aimed at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage.' (Art.2(3))

Scotland has specifically indicated interest in joining the 2003 Convention but lacks the power to unilaterally enter into international treaties due to its limited devolved powers in the United Kingdom. During the Scottish independence campaign of 2015, those advocating for independence expressed a commitment to signing the Convention – an issue rarely addressed by other political movements (Scottish Government 2013). While the campaign for independence failed, there have been efforts in recent years for Scotland's domestic law to mirror the requirements of the Convention and to emphasise the importance of ICH in Scotland.

Historically, the GLAM sector has supported these efforts, and the proactiveness of the sector in increasing awareness of ICH is also growing. For instance, in 2008, Museums Galleries Scotland produced an inventory of the ICH in Scotland, which later evolved into a Scottish ICH Wiki resource; more recently it hosted a highly successful symposium specifically on ICH, bringing together prominent members of this international research community (IHC Scotland Wiki n.d.; Museums Galleries Scotland 2015).

In the absence of international treaty force, diverse types of legal protection have arisen intended to protect ICH. For instance, the 1993 Harris Tweed Act created a *sui generis* protection resembling trade mark law (including regulating noncommercial use) as well as a regulatory body, the Harris Tweed Authority. The Act dictates that the fabric must be

woven on the Scottish islands of the Outer Hebrides with traditional weaving methods to bear its mark. Similar in nature is the 2008 Scottish Register of Tartans Act which created a nationally managed Tartan Register, although this Act specifically states that no intellectual property rights are granted or affected by registration (Scottish Tartan Register n.d.). Nonetheless, the purpose of the Tartans Act is '(a) to be a repository for the preservation of tartans, and (b) to be a source of information about tartans.' (Art.1(2))

ICH is also gaining more recognition in England. The Royal Society for the Encouragement of Arts, Manufactures and Commerce (the RSA) dedicated a section of their annual report in 2015 to ICH and attempted to include ICH in their heritage index by adding 'culture and memories' as one of the seven factors alongside more traditional categories, such as 'landmarks and monuments.' The RSA states:

Often, we tend to associate heritage with historic structures which have stood the test of time: castles and palaces, museums and country houses, as well as the legacy of industrial Britain. But the places where history comes alive are places where people have activated local history. Heritage doesn't speak for itself – it involves people playing a role to interpret historic resources, so that they are meaningful in the present day. Therefore, we consider that heritage activities are just as important as heritage assets ... Most interestingly, digging further into the data, it is heritage activities rather than heritage assets which account for the strength of the link between heritage and wellbeing at a local scale. (Schifferes 2015, 5, 15)

This RSA report echoed concerns voiced by scholars and practitioners alike regarding the difficulty of documenting empirical data for ICH.

However, other data sources in this area are either conceptually difficult to assemble or have not yet been compiled in anywhere near the same detail as exists with the long-established lists for protected buildings or nature sites, for example ... Other types of heritage defy being grounded to a single place. (Schifferes 2015, 23)

The report noted how difficult it is to measure the impact of ICH, considering the general absence of countable aspects of ICH as opposed to tangible or immovable heritage. Factors used in the report to create a ranked index of heritage, such as number of sites, size, expansions, and ticket sales, are often useless or not applicable when dealing with ICH.

Even though these developments are promising in heritage and arts communities, the impact is limited on the law and especially on intellectual property.

While this section is by no means an exhaustive recount of the institutional and community-led UK developments towards greater recognition of ICH as a living, evolving heritage, resistant to traditional metrics, the uptake of the terminology and inclusion in GLAM reports and activities is encouraging.

CONCLUSION

ICH permeates our cultural heritage institutions, social practices, and history. Cultural institutions are unique keepers of ICH separately and alongside tangible cultural objects, whether intentionally or not. Greater understanding and acknowledgement of ICH in the GLAM sector would enhance the cultural experience. It would also empower cultural institutions to make more nuanced decisions when balancing the rapid growth of technology and expansion of copyright laws with stewardship as well as managing unexpected outcomes that may result from practices such as digitisation and the reuse of digital surrogates. *Display At Your Own Risk* demonstrates vividly how copyright law and the GLAM sector's terms and conditions affect not only the tangible objects, but also the ICH surrounding the public's interaction with works in forms created by cultural institutions' practices.

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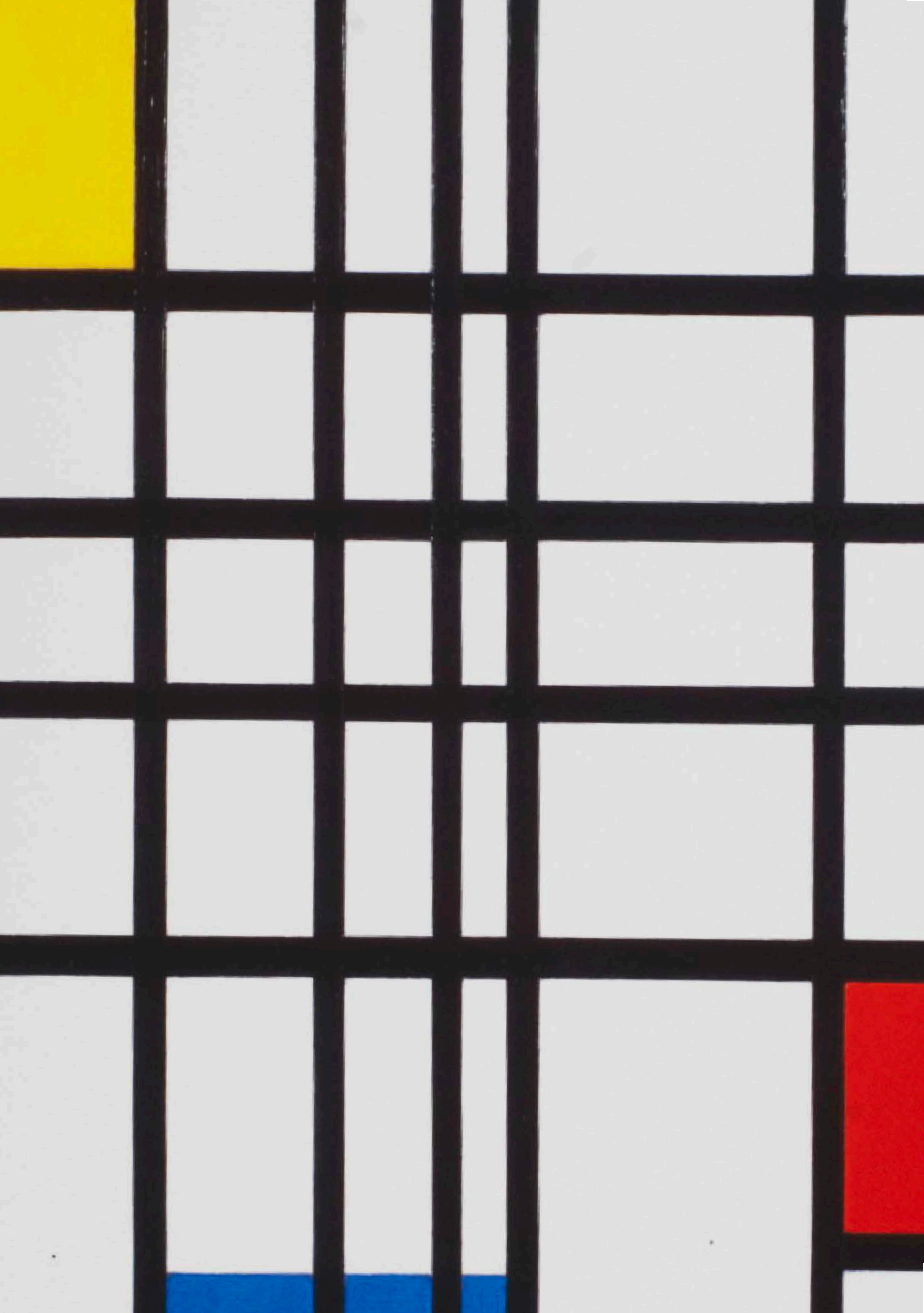
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Creating Culture By, With and For the Public

Liz Neely, *Harwood Museum of Art of the University of New Mexico*

I recently attended the Museums and the Web Conference in Los Angeles where organizers took the occasion of its 20th convening to reflect on future needs of the museum field. In this visioning process, conference co-chair Nancy Proctor proposed a new definition for museums that resonated with me:

Museums: A catalytic space for the inspiration, curation and creation of culture, by, with and for the public. (Proctor 2016)

This concept of the museum describes the source of my passion and dedication to this sector – just as I myself edge near my second decade as a museum professional. I love art, but I find myself even more intrigued by the power of art and creativity to transform us. I am a technologist, a curator, an educator, an artist, and a maker – museums have the power to be my partner, guide, and muse in all of these pursuits.

In his 2015 AAM webinar ‘The Future is Open,’ Michael Edson cites from the Universal Declaration of Human Rights that ‘Everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits’. Technology continuously offers new opportunities for increasing access to cultural heritage such that museums can more radically become platforms for inspiration, critical dialogue, creativity, tolerance, and community. While museums are evolving to more open models, a paradigm shift is in order in which we disambiguate the sharing of collections from these physical institutions, allow access for extensive usage needs and remixes, and resolve re-integration of in-copyright cultural objects. It is through both philosophical definitions of the museum’s role accompanied with tactical operational and policy-based action that we can ensure the right to cultural life in the broadest sense.

MUSING ON HISTORY

Museum missions have long been about collecting, preserving and interpreting culture. Indeed, the creation of the museum as an idea was heavily directed by the desire to make private collections accessible to and in the trust of the public domain.

The museums of the world – large and small – all have their own histories based on their patrons, collectors, curators, and political interests. Before the digital era, travelling ex-

On left: T00648_10, Tate, 82.482 px/in, 2016. Piet Mondrian (Dutch, 1872-1944), *Composition with Yellow, Blue and Red*, 1937-1942, Oil paint on canvas, 30 x 27.9 cm, Tate, London. This digital surrogate is © Tate, London.

hibitions and print publications were the means that allowed for a dialogue of objects from different institutional collections and the access to these objects outside of their physical homes.

The museum as a physical space to be visited has limitations in its access to the public. Most museum collections are far larger than gallery space can display, with often less than 10% of any museum collection on view at any one time. Objects can go decades without public access. In addition, geographical limitations make comparative studies across collections resource intensive.

DIDN'T THE INTERNET SOLVE EVERYTHING?

The emergence of the internet in the mid to late 1990s expanded possibilities for greatly increasing access to the world of culture stewarded by museums. Museums began publishing online collections and these cultural objects, by virtue of their digital surrogates, were now exposed and released from the constraints of their physical locations. The internet allows objects to travel and intermingle freely with other comparative objects regardless of their owners. These digital surrogates do not become replacements for the authentic objects, but allow a point of access for exposure to the wider interconnected web of history.

Despite these more ideal visions of collections intermingling freely on the internet, the manner in which museums use the web has often continued to draw influence from the physical nature of the museum. In his influential Smithsonian Ignite talk of 2011, 'What's the Point of a Museum Website,' Koven Smith asserts 'Museums are building kick-ass Conestoga wagons when what we need is an automobile.' Online collections were, and generally continue to be, bespoke presentations of each museum, not sufficiently disambiguating from the physical museum and largely missing out on the real potential of the internet in the global network of information. Koven wonders who will go to your museum's online collections? To extend that thought: if I'm studying James Turrell, will I visit every museum's website with Turrell's works in their online collections? How will I even know which museums have Turrell? More likely I'll just use Google.

TREND TOWARDS OPEN ACCESS

The increase in artwork images online – whether originating from a museum or from third-party sources – opened the Pandora's box of demand for these digital images. The desire for digital surrogates of artworks in an emerging culture of free sharing conflicted directly with museum image licensing practices. Since the landmark ruling in *Bridgeman Art Library v Corel Corp.* (1999) that a 'slavish' reproduction of artwork could not be eligible for copyright, museums have stretched their authority and gatekeeper role claiming rights for public domain images (Crews 2012). In an excellent study funded by the Kress Foundation analyzing museums' terms of use, Kenneth Crews explains:

When a museum constrains the public domain, it is inhibiting new creativity and scholarly exploration. Any burden on the public domain is also in direct defiance of a central premise of copyright law. The museum may very well be fulfilling a mission of preserving the integrity of existing art, but it is not serving the public interest in the advancement of either art or the law. (Crews 2012)

Aside from the mission-driven desires to make culture more accessible to the public, the trend towards open access also builds its foundations on complex and confusing copyright laws, the availability of artwork images on the internet from sources other than museums, and the increasing demand for these images in various digital publishing formats. In other words, the trend towards open collections is a very good thing – and it is also inevitable.

The open access trend in the US has been a grassroots movement led by individual institutions changing their own policies and developing precedent. Indeed, it is a very positive sign that the list of open access institutions continues to grow, which enables further use and study of these collections.

One product of these advancements led by individual institutions is that terms can vary widely between museums – from what each policy makes open, to how data and digital surrogates can be used, to how easy it all is to access.

For example, compare the National Gallery of Art's policy to the much more restrictive terms of The Metropolitan Museum of Art:

Open Access Policy for Images of Works of Art Presumed in the Public Domain

With the launch of NGA Images, the National Gallery of Art implements an open access policy for digital images of works of art that the Gallery believes to be in the public domain. Images of these works are now available free of charge for any use, commercial or non-commercial. Users do not need to contact the Gallery for authorization to use these images. They are available for download at the NGA Images website (images.nga.gov). (NGA n.d.)

Images of Works of Art that are in the Public Domain

Images of works of art that the Museum believes to be in the public domain which are identified as [logo] on the Site may be downloaded for limited non-commercial, educational, and personal use only, or for fair use as defined in the United States copyright laws. In addition, authorized non-commercial uses for such images shall include scholarly publications in any media. Users must, however, cite the author and source of such images, and the citations should include the URL "www.metmuseum.org," but not in any way that implies endorsement of the user or the user's use of the images. / Users may not modify Materials on the Websites. / All rights not expressly granted herein by the Museum are specifically and completely reserved. (MMA 2014)

PROMOTING RE-MIX AND ADAPTATION

The Rijksmuseum in the Netherlands has been dutifully lauded for its Rijksstudio that goes beyond simply opening access, as it also provides creative tools for manipulating and remixing collection images. Taco Dibbits, Director of Collections, maintains that manipulating the artwork allows for a different kind of viewing; he argues that 'The action of actually working with an image, clipping it out and paying attention to the very small details makes you remember it.' Upon being questioned about restrictions on the type of use permitted, Dibbits replied, 'If they want to have a Vermeer on their toilet paper,



Fig. 1

Figure 1

Frants Henningsen, *A Funeral*, 1883. 95x141,5 cm. kms1218; This digital surrogate is in the public domain and has been made available by The National Gallery of Denmark – Statens Museum for Kunst

I'd rather have a very high-quality image of Vermeer on toilet paper than a very bad reproduction.' (Siegal 2013). The Rijkmuseum has experimented with other making techniques and technologies, such as 3D printing, to extend the concept.

The National Gallery of Denmark (Statens Museum for Kunst) released an open access policy and promoted the use of the collection objects by presenting remixed works in its galleries for the pop-up exhibition *Mix it up!* consisting of a series of interpretations that build upon artworks in the museum collection.¹ (Fig. 1, Fig. 2)

Several museums have initiated projects incorporating 3D printing technologies to encourage exploration and creative adaptation of the collections. The Metropolitan Museum of Art launched their efforts with a 3D Hack-a-Thon in 2012 inviting artists to re-interpret the collection.² At the Art Institute of Chicago, I led the year-long Museum3D project where we investigated the impact of using 3D technologies in public programmes.³ Our study found that working with the collection to create new objects – surrogates or remixes – inspired discussions of artistic practice and art. The multi-sensory aspect embedded in 3D programs also proved very powerful in building more meaningful

1 Mix it up! Remixing public domain artworks in the SMK collection, Pop-up exhibition at the National Gallery of Denmark from 29-31 May 2015, available at: <http://www.smk.dk/en/visit-the-museum/exhibitions/past-exhibitions/exhibition-mix-it-up/> (accessed: 23 April 2016).

2 Met 3D Hack-a-Thon (2012), available at: <http://www.metmuseum.org/blogs/now-at-the-met/features/2012/high-tech-met/3-d-hackathon> (accessed: 23 April 2016).

3 Museum3D at the Art Institute of Chicago (2013-14), available at: <https://museum3d.artic.edu/> (accessed: 23 April 2016).



Fig. 2

Figure 2

Artwork remix of the National Gallery of Denmark Mix it up! Exhibition, by Jamie Seaboch / EyeQ Innovations (CC BY-SA 4.0)

Figure 3

3D Printed Book of Bas Relief from The Art Institute of Chicago by Tom Burton-wood. The book features braille descriptions and can be used to mold new reproductions using the negative and positive relief. The source files are available on Github and Thingiverse for anyone to print. (CC BY-SA 4.0)



Fig. 3

connections with the original cultural objects (Fig. 3). Programmes that promote hands-on participatory use of cultural objects aim to build appreciation, creative confidence and the creation of new ideas. It should be noted that 3D scanning and printing follows a different set of intellectual property rights and also, being a newer technology, do not carry the museum licensing legacy of 2D image surrogates.

COMMUNITIES SUPPORTING OPEN INITIATIVES

OpenGLAM is a community effort to establish standards and principles to support and make open access efforts sustainable. It is an initiative run by Open Knowledge that promotes free and open access to digital cultural heritage held by Galleries, Libraries, Archives and Museums (known as the GLAM sector).⁴

The OpenGLAM principles reveal a big picture approach towards 'advancing humanity's knowledge' and the role of a museum in facilitating this process. The OpenGLAM community has the potential to help standardize the meaning of open access, if even by engaging the dialogue amongst individual institutions and scholars.

4 OpenGLAM, available at: <http://openglam.org/> (accessed: 18 April 2016)

Excerpted from the OpenGLAM principles:

Galleries, libraries, archives and museums have a fundamental role in **supporting the advance of humanity's knowledge**. They are the **custodians of our cultural heritage** and in their collections they hold the **record of humankind**.

The internet presents cultural heritage institutions with an unprecedented opportunity to **engage global audiences** and make their collections more **discoverable** and **connected** than ever, allowing users not only to **enjoy** the riches of the world's memory institutions, but also to **contribute, participate** and **share**.⁵

Other community efforts have influenced the copyright dialogue, notably the *Sharing is Caring* seminars on collaboration in the GLAM sector held once a year in Copenhagen, Denmark featuring an international set of speakers focused on Open Collections and Open Access.⁶ *Sharing is Caring* seminars are organized by open access super-advocate Merete Sanderhoff.

Also of note is the Getty Foundation funded Online Scholarly Catalogue Initiative 2009 – 2014 which brought together nine institutions and funded the investigation of new models for the museum collection catalogue. A major thread of this investigation focused on the affordability and sustainability of collection catalogues as online research tools, which would include comparative illustrations and media. Could a museum secure perpetual rights for an online publication that would persevere through different user interface and platforms? Would museums grant each other images without fees? And how does one deal with 20th century in-copyright material? Though this initiative has concluded, its influence in nudging museum policy towards a more open exchange of images for scholarly digital publication is worth noting.

SKEWING ART HISTORY

Even with an increased number of museums moving toward open images, open data, and the relaxing of museum claims of its own licensing rights – these trends only address access to information regarding public domain works. Works under copyright or of orphaned status remain inaccessible and expensive for digital scholarship, leading to the so-called 'black hole of the 20th century,' a result of researchers steering away from problematic areas of study and leaning towards areas that are more affordable and accessible and thereby creating a gap of history. The College Art Association (CAA) published a 2014 issues report *Copyright, Permissions, and Fair Use among Visual Artists and the Academic and Museum Visual Arts Communities*, stating that one third of visual artists and visual arts professionals have avoided or abandoned work in their field because of copyright concerns (Aufderheide et al. 2014).

Branden W. Joseph, a professor of modern and contemporary art at Columbia University, told the New York Times, 'To publish an academic book, it can cost several thousand to over \$10,000 for images.' He added that images are vital in art scholarship and publishing and when they are not available, scholarship can be weakened or delayed or not pur-

⁵ OpenGLAM Principles v.1.0 (n.d.), available at: <http://openglam.org/principles/> (accessed: 17 April 2016).

⁶ *Sharing is Caring* (n.d.), available at: <http://sharecare.nu/> (accessed: 17 April 2016).

sued at all. The effects can filter down even to college art classes, where images necessary for teaching are sometimes too costly or complicated to obtain (Kennedy 2016).

One such complicated case is that of Dutch modern master painter Piet Mondrian, whose works entered the public domain according to European copyright law in 2015; yet, many of his later works are not scheduled to enter the public domain in the United States until sometime between 2019 and 2061. The Gemeentemuseum in The Hague owns the largest collection of Mondrian artworks in the world and have published a biography exploring the artist's life. 'The new book would've been too hard to publish if there were still copyrights on the work,' Mr. Tempel said. 'These kinds of books we don't make money with; they're meant to share our knowledge with the world, but to pay that much for a hundred reproductions would've been prohibitive.' (Siegal 2015). Therefore, the book will only be published in Europe and not in the United States nor online because of the ongoing copyright outside of Europe.

In *The missing decades: the 20th century black hole in Europeana*, Pablo Uceda Gómez and Paul Keller confirmed this problem by examining the temporal distribution of works in the enormous Europeana dataset. The researchers concluded that '[f]rom the 1950s onwards, the amount of material that is made available online falls dramatically. While the first half of the 20th century represents 35% of the sample, the second half is only around 11%. These findings reinforce our earlier research and illustrate once more that cultural heritage institutions are hampered in their ability to make collections from the 20th century available online.' (Gómez and Keller 2016). These studies have inspired to a call to action from museums across Europe regarding copyright reform by the European Commission (Cousins et al. n.d.)

Authors of the research paper *Towards a Cultural Commons Approach as a Framework for Cultural Policy and Practice in a Network Society* call for the creation of a commons approach for the dissemination open collections:

This approach should not be limited to freely accessible content in the public domain, but should also enable meaningful integrations of material where intellectual property rights still play a role and take into account opportunities for novel artistic creations. (van der Linden et al. n.d.)

In early 2016, The Rauschenberg Foundation announced a pioneering update to its fair use policy unprecedented amongst contemporary art and artist rights foundations. The Foundation's news release reports 'We are pleased to announce a new Fair Use policy – the first to be adopted by an artist-endowed foundation – that will make images of Rauschenberg's artwork more accessible to museums, scholars, artists, and the public.'

The Foundation's reasoning maps to the aforementioned issues of copyright skewing art history: 'First, due to the prohibitive costs associated with rights and licensing, many scholars and professors limit themselves to using freely available images in their lectures, presentations, and publications, which in turn can alter how art history itself is written and taught. Additionally, image licensing hinders the conversion of print publications to digital formats, due to the costs of obtaining rights for a second time.'

The Rauschenberg Foundation has decided to expand its Fair Use policy to the public at large after running a quiet pilot with several museum partners, including SFMOMA, which surely was related to their OSCI Rauschenberg Research Project. The Foundation

said it was inspired by the increased use of Rauschenberg artwork images as a result of these pilot licences to museums. 'The system has created barriers for the wrong people,' Christy MacLear, the Rauschenberg Foundation's chief executive told the New York Times. 'There's a lot of fear that has grown up around the use of images for things that we should all encourage, like education and scholarship and museum work.' (Kennedy 2016). It seems evident that MacLear hopes the Foundation's new policy will inspire action from other foundations and artist estates. Several leaders in that field were asked to respond in the New York Times article, yet shied away from jumping on board generally citing quality control issues (in direct contradiction to one of the Rijksmuseum's motivations for allowing open access).

ACCESS IS NOT ENOUGH

While Open Collections and open access to digital surrogates vastly expand access to museum collections, the cultural sector has not yet fully accepted that we have the ability to truly create new paradigms for access to the world's cultural heritage. Much of what we see is still focused on access to individual collections housed in individual museums. One opportunity in this interconnected networked culture is to relegate collection owners as one layer of data – an important part of the history of collecting and collection building – but be able to employ research and create digital collections that are *not* based on collection owners or museums as physical structures.

Nick Poole, CEO of the Collections Trust, expressed and elaborated on this sentiment in his Code|Words essay: 'In a networked world, success depends on achieving a fundamental transition from being a 'bounded' organization, defined by physical, intellectual and historical constraints, to an unbounded one.' (Poole 2014). But to realize this paradigm shift, museums must think outside of their institutional walls and collaborate on sustainable interoperability of data with other museums to provide functional user interfaces for accessing and using pan-institutional cultural knowledge.

Europeana illustrates both the problem and the promise of multi-institutional collections access. The ambitious project has accomplished the massive feat of providing access to 52,219,831 artworks, artefacts, books, videos, and sounds from across Europe.⁷ While continuous efforts are taken to improve the user interface and access to this large set of information, varying levels of metadata and standards affect a lowest-common-denominator search or data crunching. This will surely improve with time and it remains important that these initiatives are released with imperfections, rather than not be released. Multilingual and populated by a multitude of differing collections types, Europeana also features access through Linked Open Data (LOD), a semantic protocol that allows meaningful connections to information across the web.

Linked Open Data allows cultural collections to connect semantically to the rest of the web – where this cultural information becomes active nodes in the larger network. That 'unbounded' museum thus becomes an 'unbounded' sector that interlopes with other large datasets such as Wikipedia.

A small set of cultural institutions have released their collections as Linked Open Data and the effort is supported by a Linked Open Data in Libraries Archives and Museums

⁷ Europeana Portal (n.d.), available at: <http://www.europeana.eu/portal/> (accessed: 18 April 2016)

(LODLAM) advocate group. Because semantically structured information allows for pivoting the focus of inquiry, Linked Open Data allows the researcher to form more multi-dimensional questions of data, which was once otherwise dependent on how a museum has structured data.

Linked Open Data have complex structures, are difficult for a layperson to understand, and require standardization of metadata to effectively be pan-institutional. In this emergent phase, using Linked Open Data to access cultural collections is not for the faint of heart. Museums have failed to adhere to standards (or alternatively have adhered to many 'standards') and therefore it is difficult to search across datasets. Additionally, interfaces are not user friendly and LODLAM resources thus far have focused on structuring the data for publishing, but not in improving user interfaces to facilitate better access for inquiry.

MOVING FORWARD

Merete Sanderhoff, Curator and Senior Advisor at the National Gallery of Denmark (Statens Museum for Kunst) states: 'The idea underpinning open collections is to turn artworks from passively consumed images into building blocks in the hands of users.' This illustrates the initial big-picture concept of best allowing our museums to be catalysts for inspiration and creativity in our global society.

Though most of what I've advocated in this essay pushes for thinking beyond our individual institutional manifestations, this can only be accomplished by starting within our organizations to develop a philosophy for sharing collections and desired outcomes. To conclude, I quote the Director of National Gallery of Denmark, Mikkel Bogh (translation by Merete Sanderhoff):

With our digitised collections, we can support people in being reflective, creative human beings. But the precondition is that cultural heritage is common property, and that each and every one of us can use it for exactly what we dream of (...) Our role is still more to facilitate public use of cultural heritage for learning, creativity, and innovation. Today, learning happens in reciprocity. We are all a part of the Web. We educate each other. (Sanderhoff 2015)

We in museums must work together to rethink the paradigms of who we are and how we serve society. Access to the collections that we steward and facilitating their use as interfaces for critical dialogue and creativity will allow our institutions to be true enablers in the study and creation of culture by, with and for the public.

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El sueño
la razón
produce
monstruos.

An Institutional Perspective of Digitization

Fred Saunderson, *The National Library of Scotland*

INTRODUCTION

One third of the National Library of Scotland's collections will be held in digital format by 2025, the centenary of the Library's foundation (National Library of Scotland 2015). As a strategic objective, this goal is telling of the significance and role of 'digital' to contemporary, collecting cultural institutions. It also speaks to the scale and richness of analogue collections. The Library's collections come in all shapes, sizes and varieties, from bestselling paperbacks to archives of correspondence. The collections number well into the tens of millions, although counting the exact number of material objects is not feasible. All this in a single library which, in its current form as Scotland's national library, is less than a century old.

As rapid as the growth of the physical collections has been, the expansion of the National Library's digital holdings promises to be more extreme. The Library's physical collections currently number around 25 million material objects. So far, we have digitized around 170,000 paper-based objects, generating about 5.2 million digital images, and we hold around 1.3 million digital journal articles and 50,000 ebooks, collected in accordance with the Legal Deposit Libraries (Non-Print Works) Regulations 2013. Assuming our cumulative holdings rise to around 28 million by 2025, we anticipate that 33% – more than nine million – of these objects will be digital. The Library currently receives around 4,000 new physical objects every week and while it remains unlikely that print material will abate in the next decade the number of born-digital items available for collection will undoubtedly also rise, which in turn will contribute to the expansion of our digital holdings. However, as much as our born-digital collections will increase, this growth will not deliver the Library's aspirational one-third threshold. To 'plug the gap' many of the material objects in our collection will need to be transformed from analogue items into the 1s and 0s of machine-readable (digital) data.

This process of digitization presents cultural institutions like the National Library with a significant set of opportunities and challenges. This essay will explore these, through examination of the nature of physical collections, the benefits of transforming these into digital form, and the associated problems and risks. The paper's aim is to describe some of the factors involved and dispel any idea that digitization, as a process, involves nothing more than 'scan and publish'.

On left: Ff106258, National Gallery of Victoria, 134.347 px/in, 2016. Francisco Goya y Lucientes (Spanish, 1746-1828), *The sleep of reason produces monsters* (*El sueño de la razón produce monstruos*), plate 43 from *Los Caprichos* (*The Caprices*), 1797-1798, published 1799, Etching and aquatint printed in sepia ink, 18.3 x 12.2 cm (image); 21.5 x 151.1 cm (plate); 24.2 x 16.7 cm (sheet), Felton Bequest, 1976, National Gallery of Victoria, Melbourne. This digital surrogate is © National Gallery of Victoria and has been made available on the NGV Collection Online through the generous support of the Joe White Bequest.

My Dear & Worthy Friend, New York, Nov. 5, 1776

I have just received your letter of the 29th of last March which came by the way of Halifax & is the only letter of yours that has reached me since February. What the misfortune of your letters has been owing to, I know not: but probably to the cause you assign. I am very sorry that the expression in my letter to Dr. Chandler, which you mention, has given you pain; tho' it is no little pleasure to me to find that the suspicion which gave rise to it was entirely groundless. Nothing wounds me more sensibly than any neglect from the person I really love: & perhaps my sensibility in this way was heightened by the wretched situation in which I with the other Friends of Government, ~~were~~ then. Now that our prospect begins to brighten a little I see & confess that I was wrong in admitting any suspicion of the friendship of one who always gave the utmost reason to believe he was steadfast & warm in his attachments.

I return you many thanks for your kind offices on my behalf with Lord Sturdam. I have seen him here, & believe the reason your recommendation did not take place, was, that his Lordship was superseded by Lord Howe. As yet I have no chaplaincy, nor moment of any kind that way; nor do I know whether I shall have any, as I am one of the worst solicitors breathing in my own behalf. I have waited on Lord Howe — particularly when the address to the Commissioners for restoring this City & County to His Majesty's Peace & Protection, signed by near a thousand Inhabitants, was presented. I drew up this address, which he knew; I am intimate with his Chaplain, who is a very gentle, worthy man: They both know, & indeed cannot help knowing the situation of the clergy here & if this will not induce his Lordship to do any thing for them in the way of that conferring chaplaincies, I do not conceive that a direct & formal application for the purpose would have any effect. I shall therefore wait with patience & silence, & try to struggle thro' my difficulties as well as I can, which you must not naturally suppose are great enough, now that I am obliged to support two families — when the congregations here are dispersed & a great part of the Church Estate is destroyed by the late dreadful fire — & further, when I can expect no profit from my Tenants on account of the present confusions, which have

Fig. 1

Figure 1

Letter to British Loyalist, Myles Cooper, a prominent Loyalist in New York during the American Revolutionary period from 1763-1785, available on The National Library of Scotland's Flickr stream, accessed: 25 April 2016.

MATERIAL OBJECTS AND ANALOGUE INFORMATION

Information is recorded and conveyed by a multiplicity of carriers and forms. Excluding information that is stored as machine-readable 1s and 0s (digital information), these carriers can broadly be categorized as 'analogue' materials. Cultural and collecting organizations have long been in the business of acquiring, preserving and providing access to analogue content. From paintings, sculptures, and scrolls to jewels, stuffed animals, and airplanes, the array of analogue materials is extensive. As a library, the National Library naturally focuses on analogue materials that specifically function as 'information' carriers; however, its collections extend beyond printed books: photographs, maps, drawings, etchings, plans, charts, letters, diaries, journals, ledgers, films and television programmes are just some of the other information-holding formats that we curate.

Analogue information is indelibly valued and valuable. The physical characteristics of an object are frequently central to its significance. The ink pressed into the paper of a letter, the binding wrapped around a first edition book, or the postmarking on an envelope are all physical traits that distinguish and enliven analogue materials (see Fig. 1). Every analogue object in the National Library's collections carries information, often (but not always) in written form, and these objects also carry information within their own characteristics, form, nature, and provenance. Such characteristics are rooted in, shaped by, or exposed through physical form.

Although we all engage with and consume increasing amounts of digital data, it is also true that we have done comparatively little by way of ending our millennia-old habits of recording and consuming physical information. We still live in a world that is full of analogue information carriers. Books are published, newspapers are printed, and physical postcards are sent. We still put up posters, write lists, and stare at advertising billboards from cars, buses, and trains. We even convert data 'back' from digital to analogue, for example, when we print articles or emails. It is obvious, perhaps intuitive, that the tangible nature of physical information carriers gives them particular qualities that cannot be replicated by the power and flexibility of 1s and 0s.

WHY WE DIGITIZE

Despite their durability, popularity, and persistent ubiquity, analogue information carriers have weaknesses. Fortunately, digital technologies are good at addressing many of these weaknesses. From an institutional perspective, there are two key limitations that stem from retention of collections only of physical information carriers. The first is preservation. The second is access.

Physical objects are often more durable than their digital counterparts, thus they can be easier to preserve. Analogue materials rarely require an interface for their information to be extracted. Books (language and, perhaps, print size notwithstanding) can be read without any interface between eyes and the page. The mere preservation of the page maintains the ability of the text to be digested. Humans require, conversely, an interface in order to interpret digital information: it's no use looking directly at the millions of 1s and 0s that make up a digital image or block of text. In spite of these facts, digitization offers important benefits to collecting organizations' overarching responsibility to preserve the information for which we are caretakers.

Digitization is necessarily concerned with copying. The process involves transformation: from analogue, non-interface ingestible content, to digital, machine-readable data. At a basic level, therefore, digitization is a patently useful preservation mechanism. If you can digitize an item, you obtain the ability to preserve multiple copies. Unlike re-pressing a printed book, you won't, through digitization, create a like-for-like format copy of an object. From a tangible value perspective, therefore, you risk the potential for information- and value-loss in the copy. However, the 'core' information – the text, the look of the image – is preserved as 1s and 0s. These can easily be replicated over and over again. Digital information, unlike finite physical objects, can be stored in multiple places 'at once', protecting information from calamitous events and other potential dangers.

A related preservation benefit of digitization is a reduction in stress, handling, and exposure to which the material object is subjected. If an institution has only one physical

copy of an object, in order for the information within that object to be interpreted and used, the object inevitably must face a degree of stress. Books and manuscripts need to be handled, with all the associated pulling, moving and potential for ripping or folding (see Fig. 2). To counter such stresses, almost any appropriately cared-for cultural object can be 'dark' stored, locked away from such dangers and threats. However, an outcome of this is that the information, preserved as it is in a tangible sense, remains unpreserved in an intellectual sense. No one can get to the information, because of the way in which the carrier is being protected. There is therefore a preservation dichotomy.

Digitization can address this in part, allowing a preservation and institutional win-win. With a digital surrogate, an organization has a potentially fragile material object *and* a durable, copyable, portable surrogate. The analogue object can be sent into 'dark' storage, better ensuring its physical characteristics are retained for the future. The digital copy, meanwhile, can be retained in circulation, supplanting the original and allowing the intellectual content to be preserved simultaneously to the material object preservation.

Intellectual preservation is associated with the other principal benefit of digitization for cultural institutions: improved access. This is perhaps the most apparent and obvious benefit, particularly for users. Much as a material object can only be protected in a limited sense, by virtue of being tied to a single location at any one time, so too can that object only be accessed in a limited way. Physical access to analogue information carriers may be superior in terms of access to the cumulative total of the information available. Both the intellectual content and the data stored within the physical carrier are available, from an ink impression to a postmark. However, the object itself is available only to one person, or a limited group of people, at a time. Crucially, object and audience must be in the same location. This is a significant limitation on the object's potential.

The creation of a digital surrogate allows physically and geographically-bounded objects potentially to become accessible to anyone, anywhere and at any time. In this way, digitization allows collections to 'break free' from cultural institutions in ways that were not previously viable. Older techniques of preservation and access supplementation, such as the decades-old practice of microphotography (for example, copying newspapers onto microfiche), bring similar preservation and access benefits. Significantly, however, copies made through such processes remain analogue, and largely constrained to certain physical access locations. Digital surrogates and born-digital collections are not so constrained. They can be delivered to large, dispersed audiences, audiences far larger than any institution could realistically attract or accommodate on-site. However, as the next section explores, digital conversion is by no means the final hurdle to entirely free, open and global access.

THE CHALLENGES

Cultural institutions face various challenges when digitizing collections. Financing is a significant hurdle, although one that is naturally not unique to this endeavour. Other, more specific hurdles come in the form of selection, standards, storage, and technological sustainability. It's worth exploring these in turn.

Just as digitization is not a straightforward technical process of 'scan and move on', determining what to digitize is not a simple activity. A key challenge in developing appro-



Fig. 2

Figure 2

Claire Thomson, Conservator, flattening a seventeenth century Dutch map inside the humidification chamber, Courtesy of The National Library of Scotland, March 2016, Maverick Photography.

appropriate selection criteria is to understand why an institution wants to digitize in the first place. If, for example, the key driver is preservation, then it seems logical to prioritize unique, fragile and at-risk objects. However, these may not be the best collections to start with if wider access and audience development are key priorities. Equally, the very process of digitizing fragile materials, as a preservation technique, can endanger the physical integrity of a work, whether it is a tightly bound volume or a set of crumbling papers. In order to preserve intellectual content through digital capture, institutions are often necessarily guided by the real risk of damage to the material object. To digitize a fragile item is a tough call to make, if the process is likely to have lasting or irreversible negative effects on the original. Selection may be heavily determined, therefore, by usability and (perceived) interest in the content, as well as condition of the material.

Legal issues also present hurdles. Copyright is a comparatively minor challenge to institutions like the National Library, however. There are copyright exceptions, notably the preservation exception in the UK (Copyright, Designs and Patents Act 1988, s.42), which enable digitization for preservation purposes (although enabling access to the digitized, preservation copy is something else again). A more significant legal complexity relates to ownership of the objects, as well as the digital copies and any rights therein. Frequently, an institution's most significant, fragile, and in-demand collections are deposits (cared for and preserved by the institution but owned by a third party). Squaring the circle of ownership, when seeking to copy huge quantities of material, can be a steep challenge.



Fig. 3

Figure 3

Forth Bridge construction: Works at Inchgarvie from wind gauge on castle ruins. Sheds to the right in the foreground are those containing electric light machinery, &c, while the platform to the left is the landing stage for passenger boats, with a background conspicuous in which will be noticed top of a temporary Caisson still intact. The method adopted for supporting diagonal struts independently of chains, is here shown in the shape of the small lattice girders running parallel to the portion of bottom members directly underneath. Transcription from: Philip Phillips, 'The Forth Railway Bridge', Edinburgh, 1890, available on The National Library of Scotland's Flickr stream, accessed: 25 April 2016.

Once content has been selected, institutions need to agree and implement suitable standards. This means more than simply capturing high quality digital images, film, or sound files. A pivotal element of any digitization effort is metadata. Improving metadata – the data about data – can become a task almost *ad infinitum* for institutions with wide and deep collections. Effectively, it is pointless to digitize material without developing appropriate metadata. There is little point in expending time, effort and expense in creating digital copies if those copies cannot be identified, linked, stored or used. However, it's often impractical to dedicate time to generating highly detailed metadata about every aspect of each object (or, indeed, each 'capture element' of each object, such as each page of a digitized book) (Fig. 3). Therefore, determining standards – of capture quality and of metadata quality – before digitization is essential. These decisions can significantly impact the amount of time and expense required for capture, which can subsequently impact selection, scale and budget.

Once the material for digitization has been selected and the relevant standards determined, there is the comparatively straightforward – and brief – task of capture. Unless an institution plans to divest itself of the originals after capture, storage requirements in fact expand after capture. A shelf or drawer is still needed for the material object(s), even if in cheaper 'dark' storage, and servers are now required for the digital surrogates. Capture is likely to be at a high 'preservation' standard, which means high demands in terms of digital storage capacity and quality. To comply with robust digital preservation standards, the storage of digital surrogates across multiple locations is often also required, which can impact costs and planning. Unlike one-off matters of selection and

standards, storage requirements (and digital preservation) place ongoing obligations on institutions. Once a few million TIFF files are created they must be maintained and serviced into the future. Over-zealous digitization, perhaps in response to a glut of immediate funding, has the potential to lead to future storage headaches. In this respect, storage forms a fundamental, and largely hidden, consideration for institutions when digitizing collections.

A final challenge concerns the sustainability of collections more broadly conceived. This demands taking into account future developments in technology, something that is particularly testing. Sizeable investment goes into digitization, meaning that the viable lifespan of digital surrogates must be considered alongside the pace of technological development. For example, in the current environment the growth and future role of 3D scanning should be considered alongside considerations of more 'traditional' 2D capture. How quickly will or might a high quality digitization be seen as a low quality or insufficient copy? Crucially, by digitizing today can an institution be certain it won't need to re-digitize an item in three or five years? These questions are far harder to address, largely because the answers – inasmuch as there are any – are difficult or impossible to calculate. Nevertheless, for the investment and risks involved, it's essential that institutions give real thought to the sustainability of both their digitization efforts and their digitization outputs from the outset.

CONCLUSION

Digitization of cultural heritage and information collections is a many-headed beast. Fundamentally, there is far more to digitization than a simple decision to capture. The payoffs and benefits of digitization for cultural institutions and their users can be significant. Digitization affords the possibility of making physical collections infinitely more accessible and considerably better secured. Conversely, it presents a host of not-inconsiderable challenges. Beyond the obvious limitations of funding and the pressures placed on institutions by introducing major new work streams, digitization also brings more nuanced challenges. Chief among these are considerations of selection, standards, storage, and sustainability.

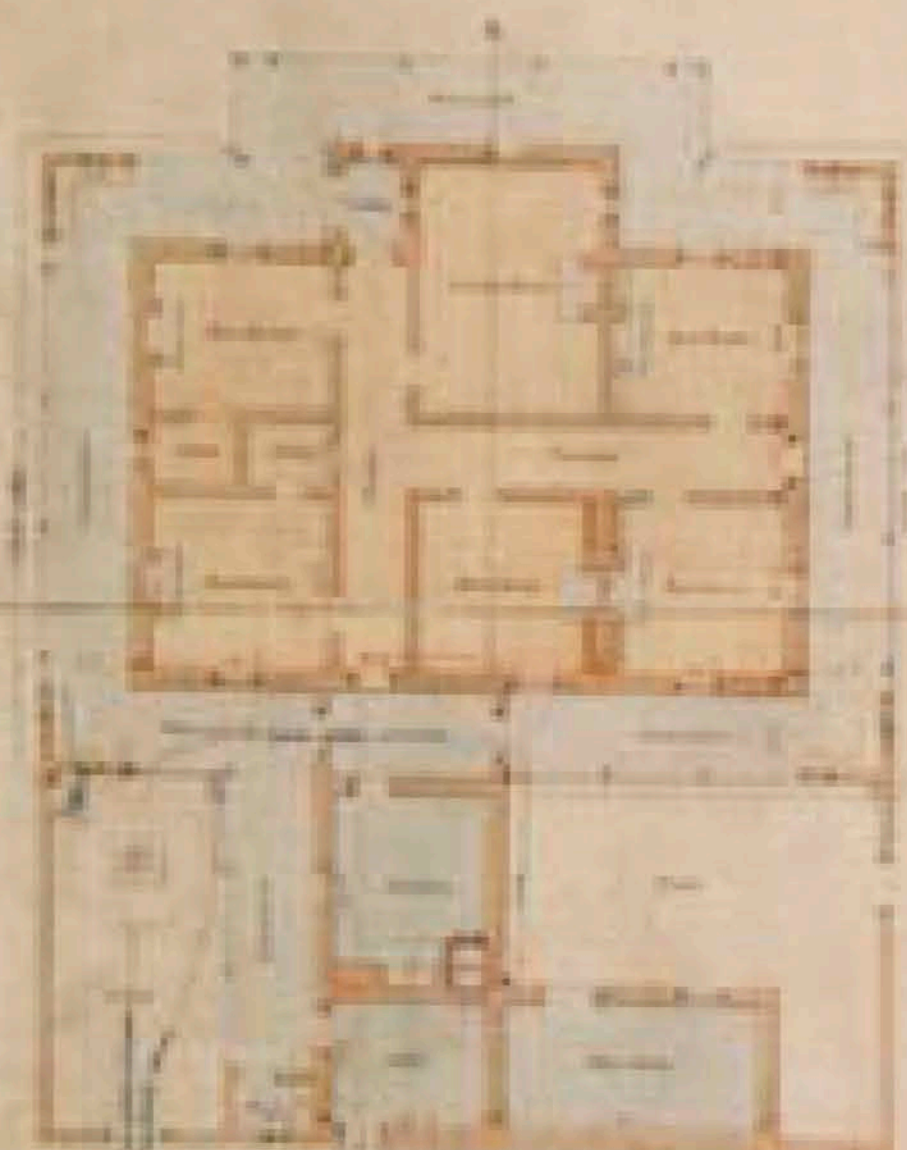
Overall, digitization is valuable for institutions like the National Library. There is little to be said, irrespective of the challenges, against improved preservation and access, which can come readily from digitization. Allowing analogue, unique collections like ours to 'burst free' of their physical premises and constraints without inordinate risk to the original material objects holds out tremendous potential that should not be undersold or underestimated. The National Library's ambition to be 'one-third digital' within the decade is testament to the importance and value of digitization to cultural institutions.

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HEAD OFFICE QUARTERS



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Risky Business: Copyright and Making Collections Available Online

Victoria Stobo, *CREATE, University of Glasgow*

Display At Your Own Risk is a research project primarily concerned with the way cultural institutions make their digital collections available online, for use and reuse by the general public. In many respects, the exhibition places the perspective of the user centre stage as the organizers explore the risks inherent in making use of digital surrogates of public domain works from internationally renowned museums and galleries, without the express permission of those institutions. But the 'risk' alluded to in the project title speaks to a range of issues. For example, the organizers also draw attention to the risks that cultural institutions face when making collections available online in the first place. Although digitizing works in the public domain presents institutions with no risk (from a copyright compliance perspective), what risks are incurred when digitizing copyright-protected collections, and how might these be managed?

The potential benefits of making collections available online are addressed elsewhere in this collection. This essay provides a no-nonsense run-down of some of the issues to be aware of when making heritage collections available online. Often, these are issues that cannot be satisfactorily resolved with any certainty: whether an item is protected by copyright or not; whether you have identified the correct rights holder(s) for an item; whether you can expect a response from those rights holder(s), and so on. With that in mind, any evaluation of the risks and uncertainties involved must be tempered by a clear focus on the potential benefits associated with making these collections available online.

COPYRIGHT AND THE DIGITIZATION WORKFLOW

Copyright considerations can impact the digitization of a collection at almost every stage. Before digitization begins, collections will be selected and the shape and form of the online resource will be determined. This selection process might address particular research needs within an institution, respond to the needs of users, take advantage of a commercial partnership, or map onto a particular call for funding proposals. At the selection stage it is essential to have an idea of the rights issues that might be triggered by digitizing the collection and making it available online. This helps to determine what rights clearance activity can be undertaken given the budget and timescale associated with the project, as well as the type of permissions that may be required from right-

On left: ShowImage.aspx, National Archives of Australia, 14.326 px/in, 2016. James Barnet (Scottish, 1827-1904), Montague Island Lighthouse and Quarters, 1878, Drawing, 74.5 x 125 cm, National Archives of Australia, Canberra. This digital surrogate is © Copyright National Archives of Australia 2016.

sholders. When digitization commences without these insights, project outcomes can be seriously affected.

Following the selection process, ideally a rights audit would be carried out to identify material that is protected by copyright, as well as who owns that copyright. The level of intellectual control of the collection will influence how accurate and quickly progress can be made at this stage. Depositor and accession documentation, as well as the collection catalogue, will help to identify rights information as well as devise processes to locate this information. If the collection is well-documented, it may be possible to quickly identify the rights that have been assigned to the institution and which rights are owned by third parties. If the collection has been minimally processed, further cataloguing will have to take place to get a full picture of the rights issues at play.

A rights audit will help determine whether rights clearance is required, and if so of what kind. For example, a commitment to strict copyright compliance may be called for, or clearing rights might be simplified by prioritizing only certain rightsholders (a risk-managed approach).

Assuming some form of rights clearance is required, the audit will help generate the list of rightsholders that may need to be contacted. Rightsholders can be contacted via letter, email, social media or phone to ask for their permission to digitize the material and make it available online. When contact is made, inform them about the digitization project, and explain why it is important. The material to be digitized should be described in detail. An explanation of how the material will be made available as well as what users will be able to do with it is often helpful in securing the relevant permission. You should be prepared for the rights holder to ask further questions about the project and the material being digitized. They may want to see copies of the items before granting permission, which will have practical implications in terms of managing the digitization workflow.

As a result of contact, you'll find that most rightsholders who go to the trouble of responding to your request will grant permission, and especially when digitization is for noncommercial and educational purposes. Some may respond by withholding permission, whereas some may not respond at all. Discretion is required when dealing with non-responders. In some cases, you may have the wrong contact details or the rights holder may simply have decided not to reply. In other cases, the rights holder may be genuinely unlocatable, in which case the material should be considered to be orphaned. Within the UK, when dealing with orphan works, there are various options: you can avail of the exception for orphan works laid down in European copyright law, or the Orphan Works Licensing Scheme (OWLS) managed by the UK Intellectual Property Office, or you might choose to make some (or all) of the orphan works available on the basis of an appropriate risk assessment.

Once the collection is made available online, this necessarily involves a commitment to the ongoing maintenance of the digital resource and metadata including rights information concerning the digital collection. If possible, your resource could incorporate a function that enables users to contribute descriptive tags, or identify authors of rightsholders of works in the collection. (This information will need to be checked before being added to the resource.) If you have made material available without contacting or successfully locating rightsholders, and those rightsholders subsequently contact you

about your use of their work, you will need to consider how best to craft and implement a takedown procedure for that content. This needn't necessarily involve taking down the material on request. For one thing, you will need to determine whether the claim is valid or not. If it is, negotiation with the rights holder may result in the material remaining online subject to appropriate terms and conditions, or perhaps a fee. If paying a licence fee isn't appropriate, then the material should be removed from the website until permission is granted on other terms, or the material passes into the public domain.

What follows are some practical insights that flow from my doctoral research into risk-managed approaches to the digitization of archive collections within the UK.

THE DONOR/DEPOSITOR

There isn't room here to go into the detail that a discussion of depositor guidelines and relations deserves, suffice to say that depositors (or donors, depending on your preferred terminology) can take many forms. A depositor may be the creator of a particular collection of items, papers or records; they may be a close relative of the creator; they may be an employee of a organization or business that is donating its records; or they may be entirely unrelated to the collection in any meaningful sense (for example, a solicitor or accountant responsible for the disposal of assets).

An institution may spend significant amounts of time courting and negotiating with specific depositors, and go on to establish a long, fruitful relationship with them and their descendants. Alternatively, institutions may receive the offer of a deposit unsolicited, and signing the paperwork is the last contact the institution expects to have with the depositor. Indeed, legacy collections may have no depositor or gift documentation associated with them at all, and where they do, these may not cover the ownership of copyrights in the collection. The relationship between an institution and a depositor can be positive, benign, or in some cases, awkward and strained.

Depositors may hold all, some, few or none of the copyrights in the collection they are gifting, donating or loaning to the institution. Every collection is different in this respect. They might ask for the collection to be closed to external researchers, and insist that the institution forward all requests for access to them for review and permission. Alternatively, they might grant full access and use of the collection subject to certain terms: for example, a specific form of acknowledgement on publication, exhibition or display of the materials. They may assign the copyright that they hold to the institution, or they may retain it. They may use the deposit agreement to permit only certain types of use of the material, for example, copying for preservation or other noncommercial purposes, while precluding forms of commercial use. Where the terms and conditions of the deposit agreement conflict with existing copyright exceptions, consideration should be given to whether these exceptions are subject to contractual override or not. For example, within the UK, any term of a contract that attempts to prevent the use of a work for the purposes of quotation, criticism and review (whether commercial or otherwise) is unenforceable. Of course, when presented with terms of this nature, an institution may decide to prioritize good relations with the depositor. Indeed, maintaining the trust of depositors that they have built up over time is of huge importance to heritage institutions.



Fig. 1

Figure 1

Sarah Wilmott, Conservation Technician, sewing a book using a sewing frame, Courtesy of The National Library of Scotland, March 2016, Maverick Photography.

THE MATERIAL

The risks and benefits associated with making material created in a personal capacity available online (for example, private correspondence) will be different to those associated with a photograph or a sound recording created in the course of employment, or an art installation created in the course of a residency. Older material may carry less risk than recent or contemporary material, where the rights holder might still expect to be able to commercially exploit their work. However, older does not always equate with less risk, at least not within the UK where certain extremely old, unpublished material remains in copyright (until 31 December 2039) regardless of when it was created (Fig 1).

You may want to give some consideration to the fact that a collection that contains a great variety of material will take longer to audit, and longer to clear rights. This is particularly true of collections that contain sound and film recordings in addition to letters, photographs and other more traditional paper-based records. This is because sound and film recordings often have multiple, complex rights associated with them. This can be further complicated by collections that contain large amounts of born-digital material. Born-digital material is often very hard to audit because of the number of files within the collection, viewing and conversion issues with older file formats, and because file names may not logically correspond to the contents of the files.

CIRCUMSTANCES OF CREATION

It's important to consider the context in which the collection materials were originally created. This can have implications in terms of identifying the authors and rightsholders within the collection. For instance, a collection of personal papers created over the span of a single person's life will contain similar material like correspondence, photographs and personal records, but the contents of the papers created by a statesman (e.g. Winston Churchill), a geneticist (e.g. Rosalind Franklin), and an author (e.g. Virginia Woolf) will vary significantly. The records of a business or an institution will also vary depending on the industry and sector in which they operated.

You may need to consider whether material has been created in a personal or an official capacity, whether it was created for mundane, everyday purposes or exhibits intellectual, creative endeavour, and whether it was created with commercial exploitation in mind. Special attention should be paid to whether the creator worked as a freelancer, whether the works were created in the course of employment, and whether the relevant contracts that formalised these arrangements still exist. Often they will not.

SENSITIVE CONTENT

Naturally, the circumstances of creation are very closely linked to the content of the material in the collection. A collection might contain clinical content, sensitive personal data, images of individuals or images of children, which may or may not have been obtained with consent, and while this essay is primarily concerned with copyright compliance issues, in the UK dealing with sensitive personal data is regulated by the Data Protection Act 1988. In short, material of this nature should not be made available online.

Indeed, sensitivity review presents particular problems for mass digitization and born-digital collections. Some institutions have found it simpler to check material for sensitive content after it has been digitized, either at item level or by sampling. Other institutions prefer not to digitize sensitive material at all, but will carry out a review on the physical collection to determine what material from the collection is available for access on site, and what material remains closed to access and for how long.

INTELLECTUAL CONTROL

The extent to which the collection has been processed will affect the entire digitization project. A collection that has been minimally processed is essentially an unknown quantity: you won't be familiar with the contents, and you won't understand the extent of the rights issues until a full review has taken place. In contrast, a collection that has been catalogued to item level (a rarity in archives, but far more common in library and museum collections) may provide details with which to identify potential rightsholders, and enough description to make the creation of metadata, file-names and description for the digital version of the collection a much simpler process.

DISTRIBUTION OF RIGHTS IN THE COLLECTION

With the benefit of a catalogue and a rights audit, you will have a better understanding of the rights implications presented by the collection identified for digitization. Both the catalogue and the audit should help you to identify what (if any) rights have been transferred to the institution at deposit (or afterwards), and to what extent rights in the collection lie with third parties. And of course, there will always be material about

which you are unsure: the existing documentation concerning the deposit of the collection will not necessarily provide bright line answers. However, once you have a sense of the number of potential rightsholders, as well as how the rights in the collection are distributed among these individuals, you can begin to prioritize copyright compliance activity: clearing rights with one person who holds 50% of the rights in the collection makes much more sense – in terms of transaction costs – than approaching 300 people to clear rights in 15% of the material.

STAFF TRAINING AND VOLUNTEERS

Consideration must be given to all of the staff who will work on the project, but especially to those who will work on rights clearance. It is essential that staff with little or no experience of rights clearance are supported with appropriate training, not simply in understanding and interpreting the relevant legislation, but also in the complexities of copyright licensing and the nuances of diligent search. Moreover, anything recommended for staff applies equally to volunteers: they should also benefit from training, supervision and support in what is a crucially important step in the digitization workflow, albeit one that is often perceived as an unnecessarily complicated and bureaucratic process.

Those involved in the digitization process would also benefit from basic training in copyright and sensitivity review, as sensitive or high-risk material that may have been overlooked during the audit might be identified as part of the item-level digitization process.

LAWYERS AND SENIOR MANAGEMENT

It's also essential that the institution's legal team (if there is a legal team) understand both the intention behind the project and that a certain amount of risk must be tolerated if the project is to happen at all. Similar overtures should be made to senior management: if you are able to convince them that the potential value of the digitization initiative outweighs any risks associated with making the material available online, then support for the project is more likely to be forthcoming. However, these are often difficult arguments to make.

THE USER COMMUNITY

You will have an intended audience for the digital resource you are creating, and you may be lucky enough to have subject expertise to draw on. For example, you may be digitizing a collection of a notable 20th century poet and, within the English Department at your local university, there is an academic that not only has a specific research interest in this poet, but is also eager to engage in Knowledge Exchange with an external organization. You could draw on this expert knowledge to build up a picture of the most noteworthy rightsholders within the collection to clear rights with. You could also rely on this expertise following the clearance process when attempting to identify which non-responses are simple non-responders and which are genuine orphan rightsholders (bear in mind, this will never be an exact science).

It's also important to consider your audience, and the community that you could potentially build around the resource. If there is a feedback or contact function within the resource, users may be able to provide additional contextual information about the collection, and about rightsholders that you may have missed.

CONCLUSION

This list discussed above is by no means exhaustive but it does provide some insight into the range of issues that should be considered before collections are made available online. While cultural institutions who digitize public domain works take on no risk in terms of copyright compliance, the ways in which they seek to control access and reuse of material could also be viewed as an attempt to manage and mitigate other perceived risks associated with making material available. The risks with public domain material are not the same as those associated with making copyright-protected material available; but, guidance on risk management suggests that many of the practices highlighted elsewhere in this collection are deployed by cultural institutions in the same way to both public domain and copyright-protected content: low resolution images, watermarking, disabling the ability to copy and paste images, restrictive terms and conditions, click-through agreements, and user registration. None of these practices enhance use of collections. Many of them deliberately inhibit use. The risks associated with making cultural heritage works available online must be given careful consideration, but we should not allow them to inhibit us too much either.

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Can I Just Google That? Orphan Works and Image Recognition Tools

Kerry Patterson, *CREATE, University of Glasgow*

INTRODUCTION

The problem that orphan works pose for cultural institutions engaging in digitization initiatives has been well documented in recent years. In 2014 European copyright law introduced a specific copyright exception to help address this issue. Under this exception cultural institutions can digitize and make orphan works available online, so long as they have engaged in a diligent search for the copyright owner. Within the UK, this pan-European exception is supplemented by an innovative Orphan Works Licensing Scheme (OWLS), enabling anyone to apply for a licence to make use of an orphan work whether for commercial or noncommercial purposes. Like the European exception, OWLS is also contingent on conducting a diligent search.

For the cultural heritage sector these represent positive developments, but the burden of diligent search presents problems for mass digitization initiatives. Consider, for example, the Edwin Morgan Scrapbooks, held in the Special Collections department of the University of Glasgow Library. Morgan is one of the most distinguished Scottish poets of the 20th century, although as a younger man he also harboured ambitions to be an artist. His scrapbooks, made between the 1930s and the 1960s, have enormous visual appeal (see Fig.1, page 290). Morgan described them as ‘a mixture of autobiography, documentary, and art. I do not think there is anything quite like them.’¹

As a digitization project, the scrapbooks – 16 volumes in all – present considerable challenges in terms of copyright compliance. Morgan rarely gives a source for the images he uses, meaning that the scrapbooks contain tens of thousands of images with no information on their origins. That is, the scrapbooks contain tens of thousands of orphan works. When faced with an image with no caption or clue to its context, image recognition technology is an attractive and easy-to-use research option. The UK Intellectual Property Office has recognized the potential usefulness of these tools by including image recognition sites in its Orphan Works Diligent Search Guidelines which accompanied the launch of the OWLS scheme in 2014.² This paper explores the features and

On left: N-0186-00-000118-wpu, *The National Gallery*, 24.72 px/in, 2016. Jan van Eyck (Netherlandish, d. 1441), *Portrait of Giovanni(?) Arnolfini and his Wife*, 1434, Oil on oak, 82.2 x 60 cm, *The National Gallery*, London. This digital surrogate is © *The National Gallery*, London, CC BY-NC-ND 4.0.

1 Letter from Edwin Morgan to his publisher Michael Schmidt (15 December 1988).

2 Available at: <https://www.gov.uk/government/publications/orphan-works-diligent-search-guidance-for-applicants> (accessed: 4 April 2016).



Fig. 1

Figure 1

Extract from Edwin Morgan's Scrapbook 12, pp2239c-2240, MS Morgan 917/12. Images of Scrapbook 12 are © The Estate of Edwin Morgan and appear courtesy of The Edwin Morgan Trust and the University of Glasgow Library.

functionality of some commonly image recognition tools (IRTs), and considers how they might be of use to cultural heritage institutions.

INTRODUCING IRTS

IRTs allow the user to upload an image which the tool attempts to match with images available online or in its databases. The IPO Guidelines referred to above include only Tin-eye (www.tineye.com) and PicScout (www.picscout.com), but other sites are available, such as Image Raider (www.imageraider.com). Image search function is also embedded in various web browsers. For example, Google has offered a reverse image search function since June 2011, allowing you to upload an image to be compared to visually similar images. Similarly, Bing also offers an Image Match function.

Both Tineye and PicScout are free and can be used without registration, features that likely influenced their inclusion on the IPO's Guidelines. For this reason they are attractive to the user who is only searching a few images and doesn't wish to sign up to a site or have to pay. Tineye is free for noncommercial users and includes extensions

that allow for easy searching in a web browser toolbar. The PicScout Platform is aimed at commercial users. Their search tool is designed to ‘enable image buyers to identify and license the images they’d like to use,’ and they have ‘200 million owner-contributed image fingerprints.’³ As a subsidiary of Getty Images, PicScout would seem an obvious choice when searching for commercial photography.

Image Raider relies on Google, Bing and Yanex to get results. It offers a long term image monitoring service and allows the user to run multiple searches concurrently, features attractive to photographers who wish to monitor potential copyright violations of their work. It uses a credit model, where users can purchase credits or earn credits by tweeting about the site. Unfortunately I was never able to get it to properly perform searches for any images at all, despite trying across a period of several weeks. As such, my observations in this essay draw upon my experiences of using Google, TinEye and PicScout only.

IMAGE SECURITY

Cultural institutions carrying out diligent search will rightly be concerned about copyright and image security when uploading images from their collection, and this will no doubt influence their choice of search tool. On this issue, different IRTs adopt different approaches. For example, Google’s Help Forum states: ‘When you search using an image, any images or URLs that you upload will be stored by Google. Google only uses these images and URLs to make our products and services better.’⁴ This somewhat vague statement will certainly be undesirable for some users of the service, particularly for a mass digitization project.

Compare, however, the approach adopted by TinEye:

Images uploaded to TinEye are not added to the search index, nor are they made accessible to other users. Copyright for all images submitted to TinEye remains with the original owner/author.

Search images submitted by unregistered users are automatically discarded after 72 hours. Links to these searches will stop working after 72 hours, unless a registered user happens to save the same image.⁵

Bing’s privacy statement does not specifically mention what happens to images,⁶ and I was unable to find information relating to this on PicScout or Image Raider.

PARTIAL AND CROPPED IMAGES

So how useful are these search tools? The results, when searching for orphan images from the Scrapbooks, were variable, especially when dealing with partial or cropped images. Within the Scrapbooks, Morgan often cropped down images from their original state in newspapers, magazines and books. These irregular-shaped items tend to decrease the likelihood of an uploaded image search yielding beneficial results, although

3 Available at: <http://www.picscout.com/about-us/faqs/> (accessed: 8 April 2016)

4 Available at: <https://support.google.com/websearch/answer/1325808?hl=en> (accessed: 8 April 2016)

5 Available at: <http://www.tineye.com/faq#uploading> (accessed: 8 April 2016)

6 Available at: <https://privacy.microsoft.com/en-gb/privacystatement/> (accessed: 8 April 2016)



Fig. 2

Figure 2

Extract from Edwin Morgan's Scrapbook 12, image from p2239c, MS Morgan 917/12. Images of Scrapbook 12 are © The Estate of Edwin Morgan and appear courtesy of The Edwin Morgan Trust and the University of Glasgow Library.

Figure 3

Extract from Edwin Morgan's Scrapbook 12, p2241, MS Morgan 917/12. Images of Scrapbook 12 are © The Estate of Edwin Morgan and appear courtesy of The Edwin Morgan Trust and the University of Glasgow Library.



Fig. 3

identification of partial images is still possible. One example of a successful search is this image of an oil painting, taken from Scrapbook 12 (Fig. 2).

Despite the fact that Morgan had cropped the image, Google Images and TinEye were both able to point to sources to identify the cutting showing the centre third section of the oil painting *Villa Doria Pamphili, Rome (Souvenir d'une Villa)* 1838-39 by Alexandre Gabriel Decamps (1803-60). Naturally, the key to the success of the search tools is the fact that Decamps' painting can be found multiple websites online. The more ubiquitous the image is online, the greater the chance of identifying it using an IRT. PicScout, however, was unable to identify the painting.

The kind of hit rate you can expect to get from image search will, of course, vary. In road-testing these tools, I selected two pages at random from Scrapbook 12, incorporating a total of 14 viable images. From this small sample, I found that Google provided the best results, followed by TinEye, with PicScout unable to provide anything at all. But even with Google the success rate was very modest, identifying only two images from my sample, both of which were 20th century artworks by a well-known artist. That said, an example of a useful outcome came from the image search of an advert that originally featured in *The New Statesman*. One result identified the issue in which it originally fea-

tured as containing spoof publisher adverts and in-jokes, which was not evident when the advert was removed from that context. This demonstrates that image recognition tools might offer benefits beyond the identification of a possible rights owner: they can help us contextualise and better understand the material within our collections.

However, there are limits to the scope of these tools. They do not have universal reach to every image available on the internet. (Even Google Images falls short on this front.) For example, searching for information on a black and white portrait photograph of a boy (Fig. 3), I found nothing through image recognition tools. However, where the IRTs failed, serendipity prevailed. Looking through Twitter for new accounts to follow, I happened to see the same image being used as a Twitter avatar. This led to a conversation with the user which revealed the name of the book in which he found the image, and subsequently the 1950s magazine source from which Morgan likely cropped the portrait.

IRTS AND DILIGENT SEARCH

As IRTs are an IPO-approved method for engaging in diligent search in accordance with the EU and UK orphan works regime, I was interested to explore the IPO's response to the use of these tools as the primary means of diligent search in an application made to the OWLS scheme. For this purpose I chose an original photographic work, rather than one cut from a magazine or other source. It is a black and white studio photograph of a male bodybuilder-type figure. The photograph likely dates to the 1950s (the Scrapbook in which it was found was made between 1954 and 1960) but there is no supporting material to give any information about its origins. I used Google, PicScout, and Tineye to search for the image with no results, and then submitted an application to the OWLS scheme on the basis of just those three searches.

The response of the IPO was that the requirements of the scheme would be satisfied by a further search with three additional sources: the Association of Photographers, British Association of Picture Libraries, and British Institute of Professional Photographers. This involved my sending an email to each contact and did not result in identification of the work. This result should be encouraging to cultural heritage institutions who intend to apply to OWLS, to know that a diligent search carried out using these tools can form a significant part of their application.

SEARCHING FOR DAYOR

In preparing this paper for the Display At Your Own Risk exhibition, it seemed only appropriate that I should deploy the tools I have been discussing on the exhibition photographs of the material surrogates. Would these search tools link those digital images back to the cultural institution that created the digital surrogates and made them available online? What other information might be revealed? A sample of eight works generated some interesting results, with details provided in an Appendix to this paper.

Similar to my experience with the Morgan Scrapbooks, Google Images emerged as the tool that was most likely to generate links to the holding institution's website, although more often than not Wikipedia was the number one source identified for the images concerned. By contrast, on Tineye, personal blogs featured highly as a source of images (and typically not linked back to organisational source) as well as Shutterstock images. Interestingly, on Shutterstock, the user 'Everett-Art' asserts copyright claims over two

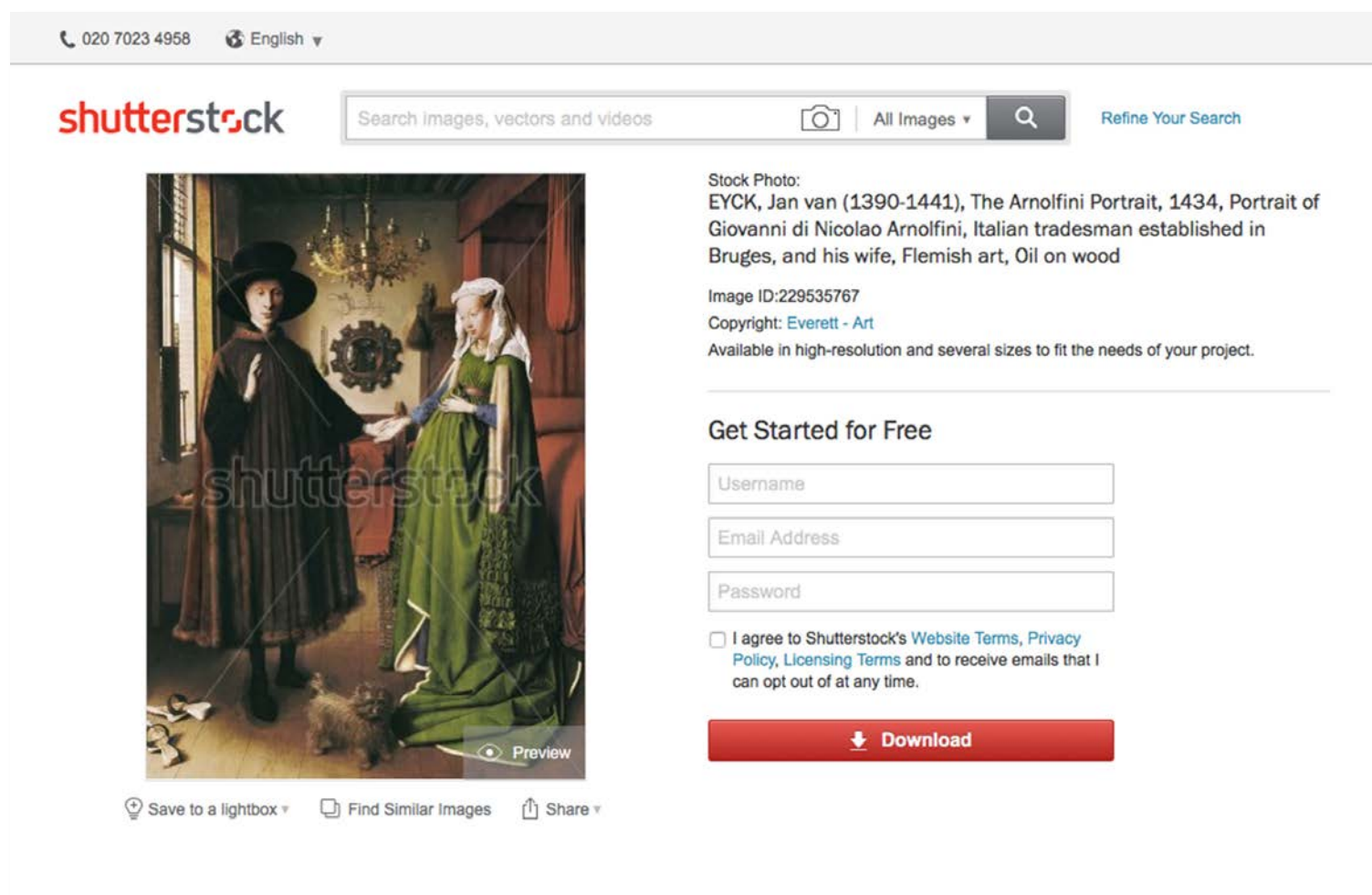


Fig. 4



Fig. 4, detail

Stock Photo:
EYCK, Jan van (1390-1441), The Arnolfini Portrait, 1434, Portrait of Giovanni di Nicolao Arnolfini, Italian tradesman established in Bruges, and his wife, Flemish art, Oil on wood

Image ID:229535767

Copyright: [Everett - Art](#)

Available in high-resolution and several sizes to fit the needs of your project.

Fig. 4, detail

Figure 4

Shutterstock account for
Everett - Art, accessed: 22
April 2016.

Figure 5

Shutterstock account for
Everett - Art, accessed: 22
April 2016.

Figure 6

Friends of San Diego Archi-
tecture, accessed: 22 April
2016.

of the images I selected from the exhibition – Da Vinci's Mona Lisa and Jan van Eyck's Portrait of Giovanni Arnolfini & His Wife – as well as many other famous paintings by Van Gogh and more (Figs 4 and 5).⁷

While PicScout was unable to identify half of the images in the sample, the images it did identify were all linked to photo agency sources such as Getty Images and the Press Association. As PicScout is a subsidiary of Getty Images, perhaps this should not surprise. In one instance, however, the search returned 'Friends of San Diego Architecture' as the rightsholder for van Eyck's Portrait (Fig. 6).⁸ Registering with their site allows you to download a free low res image, which is watermarked: 'Copyright Protected.' Van Eyck's painting, of course, is part of the collection of The National Gallery, London.

⁷ Available at: http://www.shutterstock.com/en/portfolio/search.mhtml?gallery_id=2713483&page=1&gallery_landing=1 (accessed: 22 April 2016).

⁸ Available at: <http://friendsofsdarch.photoshelter.com/image/I0000701uCGiPgsk> (accessed: 22 April 2016).



Fig. 5

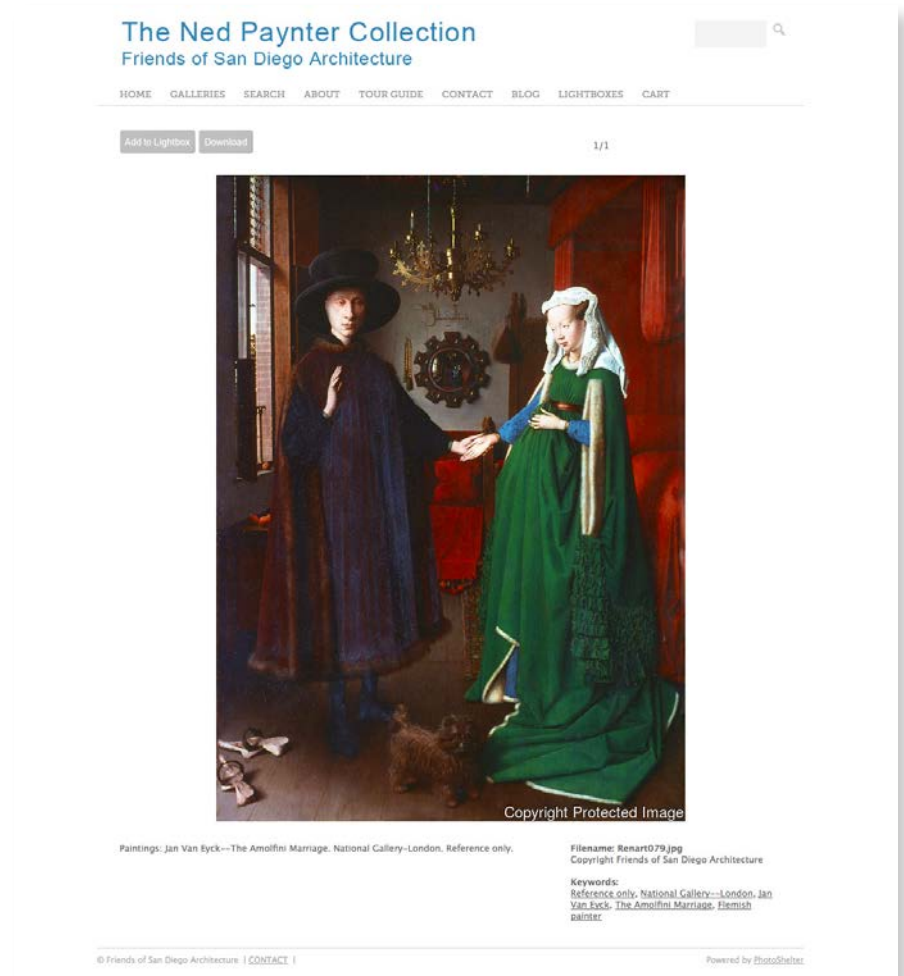


Fig. 6



Fig. 6, detail

CONCLUDING THOUGHTS

Reverse image search technology can certainly be beneficial to cultural heritage institutions. Image recognition tools have a role in play in helping identify any very 'obvious' works which are still in copyright. By this I mean those which are usually by well-known creators and with potentially litigious rightsholders. Works which are out of copyright are also more likely to be found, as they present less risk for users to use and share online. Of course, simply finding an image may not answer the copyright questions you have about the work, but it is a start.

Image searches work much less well on anything from a more obscure source or which has been cropped too much from its original state, but additionally they can reveal interesting supplementary information about the item. In the case of the Scrapbooks, the majority of images are fairly unremarkable photographs, or sections from photographs, taken from the contemporary press. These type of images are unlikely to be identified using IRTs at the current time.

There are also practical considerations to bear in mind when using these tools. Preparing images to upload for search may involve considerable effort that is not scalable when engaging in a mass digitization project. For example, I have estimated that the Edwin Morgan Scrapbooks contain an estimated 42,000 orphan works, a significant proportion of which are images. Engaging in any form of search – whether technically assisted or not – is simply impractical in terms of both time and resource. Institutions should also consider which tool is the most appropriate tool for its needs. Although I found that Google was the most likely to provide results, individuals and organizations may have understandable reservations about uploading large amounts of images to Google Image Search due to security concerns, or to other sites where the terms are unclear.

Ultimately, in the case of the Scrapbooks, the nature of the de-contextualised works means that in some cases, IRTs form one of the main ways of conducting an-IPO approved diligent search. The technology is continually developing and improving, and it seems likely that the usefulness of image recognition tools for cultural heritage institutions engaging in digitization and rights clearance activities will only increase in the future.

APPENDIX

Artwork	Google Images	Tineye	PicScout
John Lavery, <i>A Rally</i> Exhibition Image #71	The first result was Wikipedia; the holding organisation was the third result returned	Of 49 results, the first was a Russian website featuring a watermarked image; Bridgeman was seventh	Couldn't identify
Eugène Grasset, <i>Poster for the Artist's Personal Exhibition at the Salon de Cent Gallery, 1894</i> Exhibition Image #17	The first result was Wikipedia; the holding organisation didn't feature on at least first five pages of results	Of 135 results, the first was a Google Plus page, then various poster sites and Bridgeman	Couldn't identify
Sir Henry Raeburn, <i>Reverend Robert Walker Skating on Duddingston Loch</i> Exhibition Image #78	The first result was the holding organisation	Of 398 results, the first and second were personal blogs; the holding organisation was seventh	Link to Press Association and Getty to purchase image
Edgar Degas, <i>Three Dancers at a Dance Class</i> Exhibition Image #61	The first result was Pinterest, then several links pointing to the holding organisation	Of 14 results, the first four are personal blogs	Couldn't identify
Jan van Eyck, <i>Portrait of Giovanni(?) Arnolfini & His Wife</i> Exhibition Image #48	The first result was the holding organisation, then Wikipedia	Of 2,476 results, the first is 'sponsored' by Shutterstock, linking to a page identifying 'Everett-Art' as the rightsholder	Result showing the 'Friends of San Diego Architecture' as the rightsholder
Leonardo da Vinci, <i>Mona Lisa</i> Exhibition Image #75	The first result was Wikipedia; the BBC, eBay and Pinterest all feature on first page of results	Of 32,122 results, the first is 'sponsored' by Shutterstock, linking to a page identifying 'Everett-Art' as the rightsholder	Result showing links to Capital Pictures, Press Association and Getty
Marià Fortuny, <i>The Spanish Wedding</i> Exhibition Image #39	The first result was Wikipedia, with Youtube and the holding organisation identified through Wikipedia	Of 107 results, the first was a personal blog, followed by Wikipedia	Couldn't identify
Katsushika Hokusai, <i>The Great Wave</i> Exhibition Image #42	The first result was Wikipedia	Of 8,264 results, the first linked to Shutterstock which has 71 occurrences on the site	Result showing links to Press Association, Associated Press and Getty

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Copyright Infringement, Exceptions and Limitations, and Access to Shared Cultural Heritage Across Borders

Paul Torremans, *Professor of Intellectual Property Law,
School of Law, University of Nottingham*

ACCESS (AND MORE) TO SHARED CULTURAL HERITAGE

We live in a connected world, one in which we become more and more aware of nationally and internationally significant heritage collections. In the digital age there is a clear desire for access – online access that is – to this shared cultural heritage. But in a Web 2.0 environment the public's expectations often go well beyond mere access. Users also expect to engage with and make use of this digital heritage in interesting and innovative ways. Making transformative works has become part of our everyday reality, an issue that is particularly complex and controversial within a cultural heritage context. It is therefore not my aim to try to unravel that complexity. Rather, I merely want to put things in context and then highlight the crucial but often controversial role played by copyright in this area.

Authors of copyright works deserve copyright protection for their works and this claim for protection is perhaps more compelling when the work in question forms a part of a cultural heritage collection. In one sense, copyright does not create problems as these works of national and international cultural significance often reside in the public domain, in that copyright in the work has expired (if such copyright ever existed). That is not always the case though: the term of copyright has in recent years become longer and longer, and heritage collections are increasingly populated by works still in copyright, such that enabling digital access to these works requires appropriate permissions. But even works that are no longer in copyright present copyright problems. In the digital environment we do not deal with the work itself (the material object), but with a digital photograph that has been made available online as a digital surrogate for the underlying material object (whether a painting, a work of sculpture, a textile, and so on). Arguably, that digital surrogate is a copyright work in its own right, owned by a different rightsholder, and created recently enough to stay in copyright for the foreseeable future.

COPYRIGHT: THE PROBLEM?

Copyright therefore has become an unavoidable element in the game. Making a digital photograph of a material object available online engages both the right of reproduction and the right of communication to the public. If online access has become the default expectation of users, that means the consent of the rightsholder must be secured (on

*On left: 0_download,
Indianapolis Museum of
Art, 328.937 px/in, 2016.
Utagawa Kuniyoshi (Japa-
nese, 1797- 1861), Kaidan
Sumidagawa, (Sumida River
Ghost Story), 1847-1848,
Color woodblock print (ōban
trptych), 36.2 x 25.4 cm,
Indianapolis Museum of Art,
Indianapolis. Image courtesy
of the Indianapolis Museum
of Art. This digital surrogate
is in the public domain.*

'reasonable' commercial terms?) to the uses of the work concerned. In the absence of such consent there will be infringement of the copyright in the work. That is, unless the legislator wants to redefine the nature of the rights of reproduction and communication to the public. Or of course, one could protect the interests of the user through the provision of exceptions and limitations to copyright. These exceptions and limitations might then enable access to the work online, and also allow the user the opportunity to make use of the work in appropriate, perhaps transformative, ways.

But when considering access to and use of heritage works within an international context, things are not so straightforward. We tend to think of copyright as a global phenomenon and certainly the online environment in which we access our shared cultural heritage operates at a global level. It is true that rightsholders enjoy protection around the globe for their literary and artistic works just as users similarly benefit from exceptions and limitations. But the reality of copyright across borders is complex. In truth, there is no such thing as 'international copyright', if by 'international copyright' one means a single global and uniform copyright regime or model law. Consider, for example, the Berne Convention 1886, the preeminent international treaty on copyright protection. Yes, it lays down grand principles, but key concepts such as literary and artistic works and originality are not defined. There is, in other words, no harmonised single criterion for deciding which works could be copyright works and what threshold of originality must be satisfied before a work will effectively qualify for copyright protection. And there is by no means a standard or complete list of copyright exceptions and limitations to guarantee and safeguard the interests of the user, such as the right of access to information.

More positively, the Berne Convention does deliver protection within an international context by way of the principle of national treatment. In this sense 'international copyright' is based on the simple technique of giving foreign authors and creators access to the national copyright systems of the member states of the Convention; that is, by treating them in each member state as if they were a national of another member state. The simplicity of this system is almost baffling. However, national treatment also embeds an underlying and problematic reality within the international copyright regime. That underlying reality is one of a patchwork of territorial laws based on the idea of one national copyright regime per country, albeit that each national regime adheres to common ideas and certain minimum standards established in the Convention. That is, international copyright protection is predicated on the basis of a patchwork of national copyright acts.

This approach may have worked well in an era where copyright works were exploited on a national basis, that is, where authors of literary works typically had a different publisher in each country, and where each publisher roughly covered their own national market. In such a model there is an obvious, pragmatic parallelism between the national exploitation of copyright works and the national copyright regimes that govern the protection, use and exploitation of such works. But that model no longer exists. In the online environment (and even in the decades that preceded it, but then to a lesser extent) copyright works are exploited globally. That cross-border exploitation operates at a global scale, indeed the user does not always necessarily know from where in the world he or she downloads the copyright work. What has not changed, however, is the territorial, national character of copyright law. In other words, the parallelism between copyright law and copyright exploitation no longer exists. Instead one finds inconsistency, uncertainty and many opportunities for potential conflict.

PRIVATE INTERNATIONAL LAW: THE SOLUTION?

Private international law is sometimes portrayed as the solution to the problem of copyright across borders, with the emphasis here on the word ‘international’. According to this logic, private international law applies when there is potentially a conflict of jurisdiction or choice of law, and it is assumed that an ‘international’ solution takes over. But the reality is very different. The word ‘international’ merely indicates that the situation with which one is concerned involves an international dimension, for example, that the litigating parties are of different nationalities, or have their place of residence or business in different countries. The solution to these questions about jurisdiction and choice of law is not ‘international’; rather, it is ‘private’ in that the sense that we are concerned with issues of private law (rather than public law). And, like any other aspect of private law, private international law is a matter for each country to determine. Just like each country has its own national copyright law, each country has its own private international law. There is no international system that takes over. Each country merely has rules in its own national legal system to deal with cases that involve an ‘international’ aspect.

Each national set of rules on private international law first needs to address the issue of jurisdiction. Here we are concerned with the question of whether a court is able to hear and decide the case. The presence of an international element means there are by definition at least two potential countries involved whose courts could hear the case. Each of these countries – for example, on the one hand the country where the alleged infringer of copyright has its principal place of business and on the other hand the country where the infringing copies are put onto the market – has a link with the case and has an interest in facilitating a solution to the copyright problem between the parties by offering access to the courts. Essentially, this involves an offer of a forum for the resolution of the dispute between the private parties. Rules on jurisdiction will decide in which circumstances the link between the case and the country concerned are strong enough for such an offer of a forum to be made. But, when is a country closely enough concerned for it to be willing (in the sense of offering to, but also in the sense of demanding to) to hear and decide the case? Every country speaks for itself on this point and the approaches (and therefore the expectations) may differ.

Once the issue of jurisdiction has been resolved, judges must next decide which national copyright law to apply when hearing the case. This need not be the law of the jurisdiction in which the case is being heard. Rather, the court’s national rules on private international law will also determine the relevant choice of copyright law, and the international aspects of the case will once again mean that there is more than one option on this point. Suffice it again, for our current purposes, to note that there is an absence of international harmony on this issue.

AN IMPERFECT WAY FORWARD

The whole setting is therefore one of a country-by-country approach based on national law. This is not entirely helpful, but one will need to work with it for the foreseeable future. Let us therefore look at a couple of (national) approaches that may be of interest when accessing, communicating and otherwise making use of digital cultural heritage. First, we consider the way in which different national jurisdictions have addressed the creation and use online use of thumbnail images of digital photographs for informational purposes. Second, we consider some of the opportunities that copyright exceptions and limitations offer for both cultural institutions and users of those institutions.

One of the cornerstones of the online environment is the search engine. Without search engines locating and accessing anything online becomes virtually impossible. When dealing with digital surrogates of heritage objects, performing an online search will typically return a thumbnail version of the digital surrogate – a thumbnail often created by the search engine itself. Arguably, making these thumbnails available to users who perform an online search for the original works might constitute copyright infringement, engaging the right of reproduction as well as the right of communication to the public. However, different national courts have indicated that the creation and use of thumbnails by search engines is legitimate, albeit in different ways.

One approach is exemplified by the German Supreme Court which has held that the use of a thumbnail image does not constitute copyright infringement, on the basis that the rightsholder (for example, the cultural institution that has created the digital surrogate) has implicitly consented to the indexing of the material by putting it on the internet without attaching technical protection measures. From this perspective, consent means there is no infringement whatsoever. Indeed, the court was even prepared to extend its reasoning to the indexation of images that had been reproduced on websites without the rightsholder's express permission.¹

In the United States the solution to the use of thumbnail images is different. *Perfect 10 v Amazon.com* (2007) was a United States Court of Appeals case concerning the way in which Google crawled, indexed and cached websites, making thumbnails of images from those websites available through its image search service.² Google did not store or transmit the full images, just thumbnail versions. The court held that Google's actions constituted a fair use of Perfect 10's images as the use was transformative (in the sense that Google's use of the thumbnails was intended to serve a very different purpose than Perfect 10's use of the original images). In other words, the court held that the exclusive right was infringed, but continued that the fair use exception in US copyright law nevertheless permitted the use that was made of the works. The US court deployed a different rationale from the German Supreme Court but arrived at the same practical result.

With the *Perfect 10* decision, however, we have also arrived at limitations and exceptions. Copyright exceptions and limitations play a dual role in this sphere. First, they allow cultural institutions to engage in the digital preservation of heritage objects that are still in copyright while also, in certain circumstances, permitting making digital surrogates of these works available online without the need for the express permission of the relevant rightsholder. Many countries provide specific copyright exceptions for libraries, museums and archives to enable such activity, and these exceptions are vital if heritage institutions are to deliver on their public interest mission.³ Within Europe, the recently implemented Orphan Works Directive offers an obvious example.⁴

1 *Vorschaubilder II*, I ZR 140/10 (2011), available at: <http://juris.bundesgerichtshof.de/cgi-bin/rechtsprechung/document.py?Gericht=bgh&Art=en&Datum=2011-10-19&nr=59857&pos=18&anz=24> (accessed: 15 April 2016).

2 *Perfect 10, Inc. v Amazon.com, Inc.*, (508 F.3d 1146 (9th Cir. 2007)).

3 For a global overview of copyright limitations and exceptions impacting the work of libraries and archives, see Crews (2015).

4 Directive 2012/28/EU of the European Parliament and of the Council of 25 October 2012 on certain permitted uses of orphan works (the Orphan Works Directive), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2012:299:TOC> (accessed: 15 April 2016).

Second, however, copyright exceptions also enable users to make use of this digital cultural heritage in different ways. Within the UK, for example, there exist general exceptions that permit the use of work for the purposes of noncommercial research and private study, for criticism or review, quotation or reporting current events. Some of these exceptions are more narrowly defined than others, although the exact nature of the scope of these exceptions is not always clear.

Consider, for example, the copyright information that accompanies this exhibition. The organizers suggest that the use of certain images for the purpose of the exhibition (and the exhibition publication) is permitted ‘according to the research exception provided by UK copyright law’. But, does the exhibition really constitute research within the scope of the exception? The exception must be interpreted in light of European copyright law which permits EU member states to introduce an exception ‘for the sole purpose of illustration for teaching or scientific research ... to the extent justified by the non-commercial purpose to be achieved’.⁵ But what is intended by the phrase *scientific research*? Opinions differ on this issue. For example, the authors of one of the leading treatises on UK copyright law have suggested that arts and humanities research ‘could not by any stretch of the imagination be called scientific,’ and so cannot fall within the scope of the exception (Vitoria et al. 2011, 21.33). Many would disagree with that perspective, preferring instead to interpret the concept of scientific research to encompass any research, in any discipline, that is directed to the development of knowledge and understanding broadly defined (*scientia*). The point is that the precise scope of the research exception remains ambiguous, and whether this exhibition experiment does indeed fall within the research exception is open to debate.

There are other exceptions that appear to be more capacious, however. The exception for parody is a perfect example. Again, European copyright law allows member states to provide for an exception to copyright for the purposes of parody. Not all member states have introduced such an exception but within the UK it has been implemented as follows: ‘Fair dealing with a work for the purposes of caricature, parody or pastiche does not infringe copyright in the work’. Whereas other exceptions are contingent upon various criteria (the use must be for noncommercial purposes, the exception applies only to published works, and so on), the exception for parody is more open-textured and expansive.

The nature of the exception has also been expressly considered by the Court of Justice of the European Union. The court has held on the one hand that a parody needs to stick closely to the original in the sense that it needs to evoke the underlying work in the mind of the public, whilst being noticeably different from it.⁶ On the other hand, the court determined that a parody does not need to be original in its own right, nor must a lawful parody meet any other requirements apart from the fact that it constitutes an expression of humour or mockery. I have argued elsewhere that this approach to the

⁵ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society (the Information Society Directive), article 5(3)(a), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2001:167:TOC> (accessed: 15 April 2016).

⁶ *Johan Deckmyn, Vrijheidsfonds VZW v Helena Vandersteen, Christiane Vandersteen, Liliana Vandersteen, Isabelle Vandersteen, Rita Dupont, Amoras II CVOH, WPG Uitgevers België*, Case C-201/13, ECLI:EU:C:2014:2132.

concept of parody opens up perspectives for other transformative uses, in that a user might benefit from the parody exception if the concepts of mockery and humour are interpreted widely (Torremans 2016). Indeed, one might suggest that, taking the various requirements for parody together, what is required is that the parody should not create confusion with the original work and by extension should not impact the market for the original work. Interpreted in such broad terms, other transformative uses of copyright protected work could find a home within the scope of the parody exception.

Might the organizers of this exhibition rely upon the exception for parody within the UK? It is possible. There is certainly humour to be found in the pixelated re-presentation of some of the world-famous works of art on show, or in the juxtaposition of subject, tradition, geography and more. But the intention of the organizers does not appear to be humorous or parodic. This is a serious-minded project, as well as one that aspires to celebrate the cultural institutions included within the exhibition not mock them. It would be a curious inversion if the exhibition were to find shelter within the safe harbour of parody should the research exception fall short.

More importantly, perhaps, whatever opportunities copyright exceptions offer to the organizers of this exhibition, to cultural institutions, or to the general public, regarding the access and use of works of digital cultural heritage, it remains the case that exceptions apply on a country-by-country basis. That is, exceptions and limitations do not transcend borders.

BEYOND COPYRIGHT?

In relation to works that are held by public sector heritage institutions within Europe, questions of access and use might be approached from a different perspective – one that is often overlooked amidst an understandable preoccupation with copyright law, and exceptions to copyright. The revised EU Directive on the reuse of public sector information applies to libraries, museums, and archives,⁷ and according to Article 4.2 documents (broadly defined as any content whatever its medium, or any part of such content) held by such institutions shall be reusable for commercial or noncommercial purposes (Bogataj Jančič et al. 2015). However, the documents do not need to be made available free of charge. A charge can be made according to Article 5, but the total income from supplying and allowing reuse of these documents over the appropriate accounting period should not exceed the cost of collection, production, reproduction, dissemination, preservation, and rights clearance, together with a reasonable return on investment. This minimal charge notwithstanding, the Directive may well play a major role in facilitating access to and use of at least certain elements of our shared cultural heritage. The main limitation on the reach of the Directive, in this regard, concerns the fact that the Directive mandates that respect for the intellectual property rights held by third parties should, in effect, trump the reuse access right. In other words, where the rights in the material held by the cultural institution lie elsewhere, the Directive enjoys no traction.

For those institutions that are engaging in digitization initiatives, the Directive does however signal that particular care and attention should be paid to the importance of

⁷ Directive 2013/37/EU of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information, available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2013:175:TOC> (accessed: 15 April 2016).

contractual relations when contracting out any part of the digitization process. External organizations may be interested in securing intellectual property rights created as part of that digitization process on an exclusive basis, even if it is for a limited period of time. That outcome should be avoided. It would compromise the kind of unfettered – and, essentially, noncommercial – access to these materials that is envisaged by the Directive. But of course, a more market-based outcome may prove to be more attractive to cash-strapped museums, libraries, and archives.

BY WAY OF CONCLUSION

Copyright is often seen as a hurdle when it comes to access to our shared cultural heritage. In this essay I have tried to add some nuance to that picture. In the first place, copyright is an essential tool in preserving cultural heritage. And maybe there are elements in the complex copyright landscape across borders that can assist attempts to provide access to our shared cultural heritage more readily. Exceptions and limitations, such as the parody exception can play a key role in providing access to shared cultural heritage across borders, especially when it comes to transformative works. And these, and the option to make them, are a key aspect of the digital age in which we live. Finally, we highlighted the oft forgotten role that can be played in this area by the Directive on the reuse of public sector information after its extension to libraries, museums, and archives. That is, if the latter make sure *not* to hand the intellectual property rights in the digitized versions of analogue content to external third parties. The overall picture is therefore less bleak than it seemed to be at first glance.

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Cultural Institutions and Website Use Restrictions: Contract or No Contract?

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INTRODUCTION

'I read all the small print on the internet and it made me want to die' (Hern 2015). So wrote Alex Hern, technology reporter for the Guardian, who, for a week, committed himself to actually reading terms and conditions. Hern's recommendation: don't read the terms and conditions.

It is a truism that users do not read online terms and conditions (Out-law.com 2016). What is more, many legal commentators maintain that unless users have 'time to waste', reading terms and conditions is 'wrong-headed' and irrational (Woodward Jr 2014, 199).

Not reading the terms and conditions may be the rational choice for users in many on-line settings but not in the setting explored by this project. Even the least accessible terms and conditions are likely to be easier to understand for the average user than the manner in which copyright law shapes interactions between user and cultural institution. While users may be uncertain as to the legal status of terms and conditions, the terms and conditions at the very least signal the institution's wishes in respect of the reuse of content. Moreover in the context of reuse of content from websites operated by institutions based in countries other than the country where the user is located, the terms and conditions represent a fixed point or constant whereas the relevant rules of copyright law will vary according to the territory in which protection is claimed.¹ If users want to lawfully use and display content from the websites of cultural institutions, the terms and conditions are the obvious first port of call for determining what uses may be lawful.

This essay is concerned with one aspect of the user's perceived or actual risk in use of content forming part of a museum's online collection. Using the terms and conditions of the institutions selected for this project as examples, it explores whether such terms and conditions are likely to be treated as valid contracts having regard to contract formation rules.

On left: courbet-5030dig-l, Musées royaux des Beaux-Arts de Belgique, 9.322 px/in, 2016. Gustave Courbet (French, 1819-1877), Les sources de la Loue, 1864, Oil on canvas, 80 x 100 cm, Musées royaux des Beaux-Arts de Belgique, Brussels. This digital surrogate is © Musées royaux des Beaux-Arts de Belgique, Bruxelles / photo : J. Geleyns / Ro scan.

¹ Generally, under rules of private international law, Courts will apply the law of the territory in which protection is sought in order to determine whether copyright has been infringed.

CONTRACT OR NO CONTRACT: WHY DOES IT MATTER?

Most of the cultural institutions featured in the DAYOR project use terms and conditions as a means of setting out restrictions on the use of the contents of their websites.²

If the terms and conditions have *no contractual effect* then they will operate as the floor but not the ceiling of lawful use.³ In other words (so far as claims by the museum are concerned) the terms and conditions provide comfort for the user in relation to uses within the scope of the permissions set out in those terms and conditions. Having signaled permission for such use the museum cannot claim that the use was unauthorized. However, the user may *also* rely on the relevant copyright exceptions so as to legitimize uses not permitted by the terms and conditions.⁴

Where on the other hand the terms and conditions do have contractual effect, then, *ordinarily*, the terms and conditions will operate as both floor and ceiling of lawful use.⁵ The contract will govern all aspects of use of the content. On the face of it such an outcome is desirable. The existence of a contract might be thought to imply a measure of agreement between the parties about acceptable use of the content. Moreover, especially where the user and the museum are located in different territories, governance by contract would seem to secure (relative) certainty and simplicity: in particular the implications of the territorial character of copyright protection (and exceptions) need not be addressed.⁶

In reality however, if there is user consent to the terms and conditions deployed by the websites of cultural institutions, it is a pale, washed out form of consent. The terms and conditions are offered on a take-it-or-leave-it basis: if these are contracts, they are contracts of adhesion where the user has no opportunity to negotiate the terms. (Sim 2013, 26-30). What's more, cultural institutions can and very often do use the mechanism of contract to prohibit uses of content that would otherwise be permissible by law.⁷ Certainty and simplicity may be achieved at the expense of users' freedoms in relation to online content (whether or not protected by copyright).

² The phrase 'terms and conditions' is used here as an umbrella term to refer to any form of statement or notice appearing on any of the websites featured in the exhibition, that regulates use of website content.

³ This is so provided that in the law of the country in question, non-contractual terms and conditions are not relevant to civil or criminal claims under computer misuse or analogous provisions. While on one view, in the US, contractual terms and conditions may found a claim for computer misuse, it is not clear that such claims may be grounded in non-contractual terms and conditions.

⁴ Note however that in some cases the user may require to take into account the restrictions imposed by the European *sui generis* database right.

⁵ In some circumstances it may be possible for the user to challenge particular restrictions as to use by arguing that those restrictions should be denied contractual effect even where the terms and conditions are otherwise valid and enforceable. For example Ireland, Portugal and the UK have introduced legislative provisions to the effect that the exercise of some or all of their national copyright exceptions may not be excluded by contract. This is not the norm.

⁶ The implications of territoriality are that both the scope of the protection afforded by copyright and the nature of exceptions or limitations to copyright protection vary from country to country. In situations involving cross-border access to and use of copyright works recourse must be had to the rules of private international law to determine which country's copyright infringement rules may apply.

⁷ For example, the terms and conditions of the Belvedere (Vienna), the British Library, the Kunst Historisches Museum (Vienna) and the National Galleries Scotland prohibit all copying of their website content without permission, making no allowance for copyright exceptions or limitations. The Acropolis prohibits reproduction and distribution of the contents of its website for all purposes other than research and education, though the Greek copyright exceptions extend to use for other purposes. Kelvingrove prohibits all copying other than for personal or not for profit use. The Kunsthau Zurich and the Musée D'Orsay prohibit all use of the website content other than for individual and private consultation. Writing about restrictions in terms and

This essay does not address whether the question of users' freedoms to use online content is best resolved through the vehicle of contract or by reference to the patchwork of protections (and derogations from protection) afforded by copyright law, having regard to its territorial dimension.⁸ It does argue, however, that the user should at least be in a position to know whether or not the terms and conditions proffered by the website have contractual effect and that the time has come for a push for clarity on this issue.

CONTRACT OR NO CONTRACT: IS THERE AN OFFER?

Contract law dictates the criteria necessary for formation of a contract. Generally, the first and most important requirement for a contract is the existence of mutual agreement between the parties to the contract (Schlesinger and Bonassies 1968, 71).

Many jurisdictions rely on the notion of offer and acceptance to determine whether or not mutual agreement exists (Schlesinger and Bonassies 1968, 74; Wattendorf 2002, 177; Furmston and Tolhurst 2010, 2.01).⁹ In such jurisdictions it is generally accepted that the recipient of the offer must have notice of the offer if the offer is to be effective (Bar et al. 2009, 114-15). Notice may be actual or constructive.¹⁰

The requirement for notice of the offer implies more than notice of *terms*. The recipient of the offer must also have notice that such terms form part of an *offer*; that is, that there is/exists an 'expression of willingness to contract.' (Peel and Treitel 2011, 2-002)

The implications of the twin aspects of the requirement for notice of an offer were explored in *Hines v Overstock*.¹¹ In its judgment the United States District Court for the Eastern District of New York expressed the view that in the absence of evidence that the user had actual notice of website terms and conditions, the user could not be contractually bound where the terms and conditions were not prominently displayed and the website did not prompt the user to review the terms and conditions. Hines' uncontested evidence was that the hyperlink to the terms and conditions was not visible on the website except by scrolling down to the bottom of the screen. Most of the websites featured in the DAYOR project likewise present the hyperlink to the terms and conditions in such a way that the user must scroll below the fold to see the hyperlink.¹²

conditions applied to digitized versions of public domain books made available online Clark and Chawner note, 'Usage restrictions imposed by repositories included: no hosting, no republication, no alterations, scholarly use only, personal use only, non-commercial use only, attribution required, or permission required for all uses.' (Clark and Chawner 2014)

8 Paul Torremans considers that '[t]he way forward is to give priority to contract' (2010, 63).

9 The offer and acceptance analysis tends to be jettisoned only where the nature of the dealings between the parties does not lend itself to that analysis. In the case of website terms and conditions the analysis is apt.

10 The Courts may treat a person as having constructive (or imputed) notice of an offer where he is 'put in a position that under normal circumstances he can be expected to take notice of it' (Schlesinger and Bonassies 1968, 104). The doctrine of constructive notice has particular significance in the context of website terms and conditions since generally the terms and conditions are not directly communicated to the user but only indirectly communicated by means of a hyperlink. As a result questions very often arise as to whether the manner of the display of the terms and conditions is sufficient for the user to be considered to have constructive notice of those terms.

11 *Hines v Overstock.com Inc* 668 F Supp 2d 362 (EDNY 2009); *aff'd* 380 Fed Appx 22 (2nd Cir, Jun 2010).

12 The 'fold' of a webpage is 'the division between the part of the first page which appears on screen immediately and the part which requires the user to scroll down.' *Interflora Inc & Anor v Marks and Spencer Plc & Anor* [2013] EWHC 1291 (Ch) [155].

The Court also indicated that labeling a hyperlink as 'Terms and Conditions' was insufficient to prompt the user to review the terms: instead the hyperlink might have to be accompanied by other text signaling that the terms were intended to have legal effect.¹³ The approach taken by the Court in this case is in line with a trend seen in other US cases.¹⁴

This aspect of the Court's judgment is especially noteworthy. Website notices concerning use of the website and its contents are variously titled 'Copyright', 'Terms of Use', 'Legal', 'Terms and Conditions'.¹⁵ Generally the notices can only be viewed by clicking on the relevant hyperlink similarly labeled 'Copyright', 'Terms of Use' and so on. Of all the labels selected by websites, arguably 'Terms and Conditions' is most likely to signal to a user that the terms accessible via the hyperlink are intended to have contractual effect. Yet according to the New York Court in *Hines*, more is needed.

What is especially interesting about *Hines* is that it flags up the possibility that notice of an offer may be lacking even where the user clicks on the hyperlink titled 'Copyright', 'Terms of Use', 'Terms and Conditions' or similar and reads the terms and conditions concerning use of the website or its contents. For the crucial question is not whether the user has actual or constructive knowledge of the existence of terms and conditions, but whether the user has knowledge of terms and conditions that are (objectively) intended to have legal effect (Moringiello 2004).

More often than not the user who makes a diligent search for website terms and conditions will manage to locate them.¹⁶ In that case the user will have *actual* notice of the terms. However actual notice of the terms is not to be equated with actual notice of an offer. Some website terms and conditions contain clear statements to the effect that the terms and conditions are intended to form part of an agreement that has contractual effect (JP Getty Museum). Others do not: on the contrary the terms may be couched in language that suggests they are nothing more than a statement of law or of the museum's policy, having no contractual significance (MKG, Hamburg).

As a result, and even where the user makes a point of locating the website terms and conditions, it is often unclear whether the terms and conditions, objectively construed, form part of an offer. If they do not, then on the face of it there can be no consent, and without consent there can be no contract.

¹³ The Court suggested that the requirement for notice of an offer might be fulfilled where the hyperlink to the terms and conditions is accompanied by text to the effect that 'Entering this Site will constitute your acceptance of these Terms and Conditions'.

¹⁴ *Cvent, Inc v Eventbrite, Inc*, 739 F Supp 2d 927, 936-37 (ED Va 26 2010); *Koch Indus Inc v Does No. 2:10CV1275DAK*, 21 2011 WL 1775765, (D Utah 2011); *Van Tassel v United Marketing Group LLC* 795 F Supp 2d (ND Ill 2011); *In re Zappos.com, Inc, Customer Data Sec Breach Lit*, 893 F Supp 2d 1058, 1064 (D Nev 2012); *Nguyen v Barnes & Noble*, 763 F 3d 1171 (9th Cir 2014); *Sgouros v TransUnion* 14 C 1850 (ND Ill 2015). The commentary supplied by Guibault suggests that the Dutch Court took a similar in *Vermande v Bojkovski*, District Court of The Hague, (March 20, 1998) (Guibault 2006, 96).

¹⁵ The websites featured in this project incorporate statements as to use of content in notices variously titled 'Impressum'; 'Copyright'; 'Legal'; 'Legal Notice'; 'Rights and Reproduction'; 'Rights of Use'; 'Imprint'; 'Website Policy'; 'Contact'; 'Conditions'; 'FAQ'; 'Disclaimer Copyrights'; 'Open Access'; 'Copyright and Reproductions'; 'Intellectual Property Rights Policy'; 'Terms of Use'; 'Terms and Conditions'; 'General terms of use for photo material'; 'Request photograph'; 'User Agreement'; 'Image Reproductions and Copyright'; 'Copyright, permissions and photography'; 'Disclaimer'; 'Image Usage Policy'; 'About this site'; and 'Using Images'.

¹⁶ Users may however search the website of the Rijksmuseum without locating the terms and conditions. The terms and conditions are automatically downloaded to the user's 'downloads' folder (without notification) when the user downloads images from these websites.

Even in jurisdictions where the contract formation rules emphasize the requirement for mutual consent and treat the offer-acceptance mechanism as only one means of expressing consent, a failure to sufficiently flag that terms and conditions are intended to have contractual effect would seem to be fatal to the inference of a contract.¹⁷

CONTRACT OR NO CONTRACT: IS THERE ACCEPTANCE?

Let us suppose that the website can establish that the user has actual or constructive notice of an offer incorporating the terms and conditions. The user must also *accept* the offer for a contract to be formed.

In most of the websites featured in the project, the user is not required to expressly consent to the terms governing use of the website content.¹⁸ *If* the user consents at all, the consent is implied through conduct in accessing, browsing or using the website or its content.¹⁹

While the contract formation rules of many jurisdictions (Schlesinger and Bonassies 1968, 175-76; Furmston and Tolhurst 2010, 4.19) – including those of all EU Member States (Bar et al. 2009, 311) – permit acceptance of an offer by conduct, the conduct must be such as to enable the Courts to draw an inference of acceptance.²⁰

Where money changes hands, the legal rule that consent may be inferred from conduct operates to ensure efficiencies in market practices.²¹ The difficulties associated with drawing inferences from fact-situations are mitigated since a monetary exchange ordinarily signals an intention to contract. In these situations the question as to whether a person consents to particular terms usually centres on the question of whether the terms were brought to that person's attention before acceptance took place.²²

Where on the other hand, the payment 'cue' is absent, the question about inference of consent must address why *any* contract should be inferred let alone a contract on particular terms.²³ The complexity of this question may be illustrated by reference to English law.

17 This may be so either by virtue of rules concerning the incorporation of terms into a contract, a separate contract formation requirement for a showing of intention to be legally bound, or on account of a construction of mutual consent that presupposes intention to be legally bound.

18 Some museum websites (for example, the National Gallery, London and the Tate) adopt a 'layered' approach to regulation of use of website content, employing separate terms and conditions governing on the one hand, use of the website and its contents, and, on the other, relating specifically to use of digital images in the museum's online collection.

19 In other words, these are 'browse wrap' terms and conditions.

20 Nevertheless according to Loos, et al., Italy, Poland, Spain and France do not regard browse-wrap licences as binding (2011, 4.3.3.).

21 Most supermarket transactions, purchases of tickets for travel or car parking are contracts where acceptance is implied from conduct.

22 In such cases, 'The question is, what was the contract between the parties?' *McCutcheon v David MacBrayne Ltd* 1964 SC (HL) 28. No real issue arises as to whether there was a contract at all.

23 Considering browse-wrap terms and conditions relating to use of websites, Macdonald asks: 'why make a contract to do something you can do without making a contract?' (Macdonald 2011, 303). Macdonald recognises the significance of the 'prior rights' held by the parties but a detailed examination of those prior rights is outside the scope and purpose of Macdonald's article. The author offers an examination of the respective rights and privileges of website and user under English law in Pauline McBride, 'Beyond Copyright: The Annexation of Looking by Contract' (DPhil, University of Glasgow 2016). This essay incorporates some of the views expressed in the thesis.

Under English law for a contract to be inferred from conduct, the conduct must be unequivocally referable to the contract that is proposed (Furmston and Tolhurst 2010, 4.09).²⁴ In *The Aramis*, Lord Justice Stuart-Smith explained that if the conduct is ‘equally referable to and explicable by ... [the parties’] existing rights and obligations’ no contract can be inferred.²⁵ Similarly in *FW Farnsworth Ltd v Paul Lacy*, Mr Justice Hildyard expressed the test for acceptance by conduct as follows:

[T]he person who alleges inferred or implied acceptance must show that the benefit invoked, being the act relied on as giving rise to the inference of acceptance, was only available pursuant to the contract in question, and that the invocation of that contractual right was in unequivocal terms, such as to be referable only to acceptance of that contract.²⁶

In effect the contract formation rules of English law limit the situations in which acceptance may be implied by insisting on some form of exchange between the parties to the agreement. The exchange is a kind of proxy for express agreement. The exchange can take many forms: usually the exchange will be goods or services in exchange for money but money need not change hands. An exchange of reciprocal promises is sufficient as is an exchange of goods or services for a promise.

If website terms and conditions are truly contractual then what the user gives is a promise to the website to do (or not do) the various things set out in the terms and conditions and to give up rights or grant obligations according to its terms. The real question concerns what the website gives in exchange, because if the answer is ‘nothing’ then no contract can be implied.²⁷

The question of what the website brings to the table is a factor of the mesh of rights, duties, powers, and freedoms possessed by the website and the user in relation to each other (see Benkler 1999, 432). If, when all the rocks are banged together, it transpires that the user in a particular jurisdiction has no right or privilege to make use of the website and its content without permission, the grant of permission by the website will fulfill the exchange requirement. If on the other hand the user already holds a right or privilege to use the website and its content, there is no basis for the implication of consent.²⁸ As a result where (as in the case of the terms and conditions of the websites featured in this project) user consent can only be implied from conduct, the nature of the rights or privileges held by the user is key.

The scope and character of the user’s rights and privileges in relation to use of a website and its contents will of course vary according to the applicable law. Thus while many jurisdictions afford users certain rights and privileges in relation to uses of copyright works – such as the images made available on a museum website – such rights and priv-

24 The authors imply that this rule extends to other common law jurisdictions.

25 *The Aramis* [1989] 1 Lloyd’s Rep 213.

26 *FW Farnsworth Limited v Paul Lacy* [2012] EWHC 2830 (Ch).

27 Note that here the requirement for an exchange element is tethered to the need for a basis for the inference of consent. It does not flow from the doctrine of consideration.

28 Some commentators suggest that permission for access to the website supplies the basis for consent (Lipinski 2013, 290-92). If, under the applicable law, the user requires permission to access the website, then the argument is well-founded. The ingredient of exchange is supplied by a permission the user does not already possess. It is far from clear that such permission is necessary under English law.

ileges may be of little avail if, in those jurisdictions, the user holds no right or privilege to access those websites without permission. In such jurisdictions permission for access to the website will supply the exchange requirement and clothe the terms and conditions with contractual effect.

But, how difficult it is for the user to determine whether his use of website content will trigger consent where acceptance can only be inferred from conduct! In order to determine his rights and privileges in relation to website content he must first assess which areas of law may impact on his use of the website: this may include law relating to computer misuse, unfair competition, unjust enrichment, misappropriation, the European database right (for EU Member States), as well as copyright.²⁹ He must work out his rights and privileges in relation to use of the website and its contents having regard to the aggregate impact of all such provisions. Where the user and the website operator are based in different territories, the user must carry out this exercise having regard not only to the law of the territory where he is habitually resident but such other laws as may be applicable under rules of private international law.³⁰

In the context of dealings with no foreign law element, the task of determining whether an inference of consent is triggered by conduct is beyond the reach of most users. In the context of dealings with a foreign law element, the task is well-nigh impossible.³¹

REVIEW AND CONCLUSION

The lack of clarity around the contractual status of the terms and conditions of museum websites is unsatisfactory. While uncertainty as to the contractual status of such terms and conditions may impact on both website and user, websites have control over the manner of presentation of the terms and conditions while the user does not.

There are simple steps that museums could take individually to provide users with clear information as to whether or not their website terms and conditions are intended to have contractual effect. Such information could be provided not only in the terms and conditions themselves³² but also in text located next to hyperlinks to the terms and conditions.³³

²⁹ The astute user might try to find answers as to whether and when acceptance of website terms and conditions may be triggered by use of website content by referring to decisions of the Courts. However, in some jurisdictions, the Courts have not addressed the question at all (England, Australia, New Zealand). In others, the Courts have touched on the question without resolving the issue (Ireland, Spain). While the judgment in *Register.com v Verio* F 3d 393 (2d Circuit 2004) has gone a long way to ensuring that, in the US, any use of the content of a website will be treated as triggering an inference of consent to the website's terms and conditions, the mode of the access to and use of the content by the defendant in that case is distinguishable from other modes of use of website content.

³⁰ Since the scope of the user's rights and privileges is relevant to contract formation, in cases where litigation relating to the contract would likely take place before a Court in any of the Member States of the EU to which the Rome I Regulation applies, the user *may* be able to rely on Article 10 of the Regulation to invoke the law of the country of his habitual residence to determine whether his conduct has binding effect (Ferrari 2015, 366-67).

³¹ The cross-border dimension of website use, where the website operator has its habitual residence in one territorial jurisdiction and the user another, adds a further layer of complexity to the question of the contractual status of online terms governing use of the website content. While choice of law clauses may offer some certainty as to the law applicable to the contract, a choice of law clause may be displaced by private international law rules.

³² For example the Europeana Public Domain Usage Guidelines state 'This usage guide is based on goodwill. It is not a legal contract.' Europeana Foundation, 'Public Domain Usage Guidelines', available at: <http://www.europeana.eu/portal/rights/public-domain.html> (accessed: 5 April 2016).

³³ Such an approach would be in line with the Court's suggestion in *Hines v Overstock* (n 18).

There are also steps that museums could take collectively to indicate to users (including foreign users) whether or not the terms and conditions are intended to be contractual. Museums could co-operate to develop *user-oriented* best practice guidelines regarding the licensing of their online content, including standard approaches to signaling whether terms and conditions are intended as contracts.³⁴

Where the terms and conditions *are* intended to have contractual effect, museums could lead the way in abandoning reliance on the inference of user consent through conduct. Consider the model adopted by the Rijksmuseum: users may view the content without being presented with terms and conditions but may only download the content after completing a subscription process.³⁵ In a subscription only model it is readily practicable to incorporate so-called click-wrap terms and conditions, where the user checks a box to affirm consent to the terms and conditions. To be sure there may be additional costs associated with this model but additional benefits too: the subscription model offers opportunities for greater interaction between the website and the user.

While an ethic of transparency should act as a driver for clarification regarding the contractual status of museum website terms and conditions, other drivers may affect this agenda. The European Commission recently published a draft Directive on contracts for the supply of digital content.³⁶ The purpose of the proposal is to secure harmonization of consumers' rights in relation to contracts for the supply of digital content. Significantly these rights will apply in relation to contracts for the supply of digital content *paid for or not* provided that the consumer actively provides some counter-performance, including by means of the supply of data. The effect of such a proposal would be to ensure that where digital content is supplied under *contract*, and in exchange for data supplied by the consumer (many websites collect personal data under the privacy provisions of their terms and conditions), the website will have obligations as well as rights under the contract. If the Directive is enacted in its current form, European museums may wish to re-evaluate the risks and rewards associated with terms and conditions that might be construed as having contractual effect.

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34 Museums already collaborate to develop and publish best practice guidelines geared towards reducing the risks faced by museums in licensing content (see for example Young 2015).

35 However, from a contract formation perspective, the Rijksmuseum's *implementation* of the model is imperfect since the user has no opportunity to view the terms and conditions before subscription is complete.

36 Commission, 'Proposal for a Directive Of The European Parliament And Of The Council on certain aspects concerning contracts for the supply of digital content' COM (2015) 634 final.

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Authorship in the Twenty-First Century: Artist vs. Institution?

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Technology has always served as an agent of change, forcing industries, systems, institutions, communities, and people to evolve and adapt as the world's technological capacities constantly expand. The art world has not been shielded from such evolutionary influences and our ever increasingly digital world has for several years now, if not decades, continuously forced institutions to reevaluate their stewardship of, and policies concerning, art and cultural artefacts. Society today engages with art in ways that were indescribable mere decades ago, changing the relationships individuals and societies have with art and artists. This has had a direct impact on the institutions that have historically served as intermediaries, the conduits through which society interacted with art. In their struggle to adapt to the overwhelmingly digital nature of today's world, many institutions have enacted policies that call into question the concept of authorship, and whether it should, or should not, apply to institutions.

Cultural institutions are digitizing their collections and putting images of works online in an effort to generate interest and make their collections more widely available. However, while many institutions are attempting to bring their collections into the digital realm, many are simultaneously claiming rights in, and restricting use of, these digital images, including images of works that are in the public domain (Wallace 2015). The policies concerning the use of digital surrogates of works in their collections that many institutions have adopted function in particular to vest the institution with 'quasi moral rights.' (Crews 2012, 830). The assertion by the institution of 'simulated claims of moral rights' (Crews, 828) can create tension between rights claimed by the institution and those vested in the artist by various national and international legislative regimes.

While traditional copyright protections are often viewed as granting the author of a creative work economic rights, moral rights are personal to the author and typically protect the author's reputation and identity, as well as the integrity of the work. (Crews, 802; Rosenblatt 1998). Moral rights commonly encompass two primary rights: the right of attribution and the right of integrity. The right of attribution generally 'grants the author a right to ensure recognition (or lack thereof), as a work's author,' (Aharoni 2009, 106) while the right of integrity 'grants the author the right to intervene when the author feels that a third party has modified the work in a way that impugns the author's honor or reputation.' (Aharoni, 106). Moral rights are only afforded to authors (Crews, 817)

On left: tmp_98d185d-e110fd285a24a-7f6126502ea4, Musée d'Orsay, 14.268 px/in, 2016. Paul Gauguin (French, 1848-1903), *Femmes de Tahiti* (Tahitian Women), 1891, Oil on canvas, 69 x 91.5 cm, Musée d'Orsay, Paris. This digital surrogate is © RMN-Grand Palais (Musée d'Orsay) / Hervé Lewandowski.

and because these rights are considered personal to the author, they generally are not transferable and remain with the author even if the author has transferred or sold his or her economic rights in the work.

The level of protection granted to authors, both with respect to the nature and duration of rights, differs from country to country. While France has long protected the moral rights of authors, respecting a wide array of rights that 'last for eternity' (Aharoni, 106-108), the US was slow to recognize moral rights and, once it did, did so only in limited scope. It was not until 1990, with the passage of the Visual Artists Rights Act (VARA), 17 U.S.C. § 106A, that the US formally recognized moral rights. Before that time, however, several states had already passed their own legislation, and US courts had provided some fledgling protection for some moral rights through various legal concepts, including ones traditionally associated with trade mark law. (Rosenblatt). Under the US statutory scheme, authors of a narrowly defined category of visual art are granted limited moral rights, in most cases only for the duration of the lifetime of the artist, although such protection is extended for the duration of the economic rights in the work (typically, the life of the artist plus seventy years) if it was created before VARA was enacted and title to the work remained with the artist. (Aharoni, 130)

Moral rights were enshrined in the international intellectual property protection scheme in 1928 through the addition of Article 6bis to the Berne Convention. (Aharoni, 105). Article 6bis falls somewhere between France and the US, calling specifically for the rights of attribution and integrity to be granted to authors, independent of any economic rights, and for these rights to 'be maintained' after the death of an author until 'at least the expiry of the economic rights.' (Aharoni, 105 (quoting Article 6bis)). Article 6bis, however, stipulates that countries 'whose legislation, at the moment of their ratification of or accession to this Act, does not provide for the protection after the death of the author of all of the rights set out in the preceding paragraph may provide that some of these rights may, after his death, cease to be maintained.' (Aharoni, 105 (quoting Article 6bis)).

While only authors are granted moral rights under national and international laws, 'contractual obligations can ... be pressed or negotiated by anyone' (Crews, 817) and many cultural institutions across the globe are asserting rights over the digital images of works in their collection, including works that have fallen into the public domain, 'simply through terms of use that purport to be binding on anyone accessing the images from a website or other source.' (Crews, 806). With respect to moral rights, institutions do not legally hold any moral rights over any of the works in their collections, as museums 'typically do not own the copyright in the individual items held in the collections, and moral rights are not transferrable in any event.' (Crews, 817). (Moreover, while they are independent from economic rights, there can be no moral rights in a work that is not copyrightable.) Accordingly, '[w]ithout a legal right to expect credit, museums sometimes make statements of credit part of the exchange for access to the collections and use of images,' and sometimes dictate 'exactly how credit is ascribed.' (Crews, 817)

As a preliminary matter, such institutional policies may violate the moral rights of authors whose rights are protected under legislative schemes that are very broad and differential to authors. For example, the provisions of the French moral rights regime are very broad and favourable to the author, going beyond the protections called for by the Berne Convention. The French statute, which proclaims that '[a]n author shall enjoy the

right to respect for his name, his authorship and his work,' paints a wide array of acts as violations of moral rights, at the 'free choice' of an author. (Aharoni, 122). One such violation under the 'all-encompassing' language of the French statute is the 'addition of an unauthorized but 'neutral' preface to a newly-translated book.' (Aharoni, 122). It is thus conceivable that institutional policies and guidelines that require or request that the institution be named alongside the author in the credit line may run afoul of the French law and other similarly expansive moral rights statutes. Despite this, however, most institutional policies and guidelines require or request attribution to the institution, even if they do not restrict use of the digital images or otherwise claim any copyrights or other rights in the images.

In any event, even if they do not violate the actual terms of moral rights statutes, institutional claims to moral rights demand a much deeper examination, one that looks to the purpose of moral rights and the different nature of the relationship between the author and his or her work and that of the institution and the work. 'The concept of moral rights ... depends on the connection between an author and her creation,' with moral rights aimed at giving the author the ability to 'control the eventual fate' of his or her work (Rosenblatt). This right is considered the moral right of the author, the creator of the work (Rosenblatt). Yet, institutional policies seek to assert this control in place of the author, even though 'museums as the owner of the original work of art or the supplier of a photographic image generally do not have claims of moral rights.' (Crews, 831).

This is particularly evident in the institutional policies that dictate the specifications of the digital images that may be used by the public. The commonly protected moral right of integrity grants authors the ability to 'object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his [or her] honor or reputation.' (Aharoni, 105 (quoting Article 6bis)). Although this right is vested in the author, institutional policies often contain terms detailing the exact way in which the digital image of the work may be viewed, reproduced, and shared, listing the permissible resolution, size, materials the image may be printed on, and other such specifications. The Carnegie Museum of Art for instance, provides that digital reproductions 'must be low-resolution' while the Brooklyn Museum of Art goes further in not only requiring that digital reproductions be low resolution, but specifying that '[w]hen permission is granted for web sites, the image can be no longer than 800 pixels on the longest side.' (Crews, 827). Other institutions specify the acceptable ink and paper that may be used to print digital images; for example, the Portland Art Museum dictates that 'reproductions must not be cropped, bled off the page, printed on color stock, or with colored ink, nor have anything superimposed on the image.' (Crews, 827)

Such terms, which are 'hardly uncommon' (Crews, 827), may, firstly, violate the author's right of integrity, if the use and dissemination of a low resolution image would be prejudicial to the author's honour or reputation. Such terms further operate to remove the agency of the author, giving the institution the power to dictate how the image must be presented when it is used by the public. As one scholar noted, '[t]he museum that supplies the image is the party that is solely defining the terms of use, and it can do so based only on its ability to control access to the work.' (Crews, 806). While institutions may have valid reasons for specifying such terms for use, these policies attempt to give the institution control over the presentation and downstream use of digital surrogates of works in its collection. Such terms 'shape the work and therefore the way it will be

seen and found by readers and other subsequent users,' (Crews, 807) potentially in ways that violate or interfere with the moral rights of the author of the underlying work.

Such practices are even more problematic when they encompass digital surrogates for works that are already in the public domain. 'Nearly every museum today asserts intellectual property rights in reproduction images of public domain works in its collection.' (Hamma 2005) Given that public domain works are 'works whose age precludes continued protection under copyright law,' (Hamma) the assertion of rights, including moral rights, in images of such works creates an inherent tension. Under many moral rights protection schemes, including the US statutory regime, moral rights in a work expire with the death of the author. If moral rights are recognized beyond the death of the author, it is typically only for so long as the economic rights remain actionable. Yet the policies of many institutions routinely extend claims to moral rights to works in which no one holds any rights, economic or moral, and over which there are no statutorily mandated use restrictions.

Even museums that do not place any restrictions on the public's use of digital images of public domain works often still require at least a particular attribution. Europeana's Public Domain Usage Guidelines apply to use of digital surrogates made available through the portal and provide ethical standards for museums to incorporate into their terms and conditions (Europeana n.d.). The Guidelines encourage the public to 'give credit where credit is due' and protect the reputation of creators and providers (that is, the cultural institution), as 'the more you credit the institution the greater the encouragement to put more public domain works online.' Europeana's Guidelines, however, are just that: *guidelines* for use of the portal. Yet, cultural institutions have incorporated these guidelines into their use policies in different ways, with the 'terms asserted ... typically couched as if they were binding provisions of law' and not merely guidelines. (Crews, 806)

For example, the Museum Fur Kunst und Gewebe Hamburg (MKG) incorporates the Guidelines in its 'Terms and Conditions' for the MKG Collection Online and allows for unrestricted use of all images that are tagged as public domain. It then requests that users credit the artist as well as 'the museum and include ... a reference to MKG Collection Online.' (MKG Term and Conditions). Importantly, however, the MKG's policy lacks the following key phrase from Europeana's Guidelines: 'This usage guide is based on goodwill. It is not a legal contract. We ask that you respect it.' Thus, the MKG's terms and conditions appear to operate (at least unintentionally) as a binding contract for the reuse of its digital collection.

Some policies go even further, resurrecting the moral rights of the author and extending such rights beyond applicable statutory provisions. For instance, the MKG asks users to 'show respect for the original work' by clearly indicating and attributing any changes to the original work and refraining from using the 'name or logo of the artist/maker or the museum' to endorse any modified work, in order to 'protect the reputation of creators and providers.' (MKG Terms and Conditions). Without the Europeana disclaimer that the policy is nonbinding, institutions in a sense create perpetual moral rights over the digital reproductions of works in their collections, sometimes going so far as to vest in themselves rights which even the author may have never enjoyed (for instance, the US Supreme Court, in *Dastar Corp. v Twentieth Century Fox Film Corp.*, 539 U.S. 23, 32, 37

(2003), held that ‘there is no right under the law of unfair competition for the original author to be credited as the sources of materials that have entered the public domain.’ (Crews, 814, n.54)).

While the scope of an author’s moral rights generally ‘differs with cultural conceptions of authorship and ownership’ (Rosenblatt), institutional policies are acting to confer on cultural institutions a level of control over digital images that has customarily been awarded to authors, a category within which institutions do not readily conceptually fit and have not previously been included. As ‘images have become increasingly regarded as assets and as the preferred delivery venue for images has become increasingly an electronic network, the question of whether to allow free access and reproduction has become vitally important and complex,’ (Hamma) particularly when looking at images of works that are, or should be, in the public domain. Yet industry wide best practices or uniform standards have not developed, and instead we see vast divergence between the policies that cultural institutions have developed to address these issues, leading to much debate about these policies. While there may be valid reasons for some of these institutional policies (see Crews), which may in some ways fit within an institution’s mission, institutions and the public would perhaps be better served through the development of industry wide best practices, rather than the assertion of simulated moral rights, or, in the case of rights claimed over works in the public domain, surrogate moral rights (Wallace).

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Stereophotogrammetry and 3D printing: Critical Practices and Intellectual Property

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INTRODUCTION

From photography to printable 3D objects, technology continues to provide new methods of creative production which complicate authorship and copyright norms. Thanks to developments in stereophotogrammetry and 3D printing, it is possible to replicate an object using only photographs of the original work. In three recent examples artists have used this process to copy works and cultural artefacts protected by copyright or patents. One collaborative group claims to have covertly scanned and printed a 3D copy of the famous bust of Nefertiti within the Neues Museum in Berlin, while another recreated Marcel Duchamp's famous chess set from archive photographs. In a third example, a collaborative team developed a collection of adapter bricks enabling the interconnection of popular children's construction toys. In each instance the artists released their digital models on the internet so that anyone could download and print their own copies. While cultural institutions and corporations like Google have privileged access to digitize and distribute images and digital models of artworks, the artists' actions provoked at least one institution to respond with legal threats. These works raise important questions about the scope, nature, and function of intellectual property laws. Does the copyright regime incentivize and enable the realization of innovative works and ideas, or has the influence of industry lobbyonomics resulted in a copyright landscape that prioritizes corporate interests over those of individual creators and creative practices.

STEREOPHOTOGRAMMETRY, COPYRIGHT, AND GOOGLE

This essay starts with a discussion of some of the technical underpinnings of the processes to digitize 3D objects and space which, like photography and other media, are increasingly accessible to artists and hobbyists. Photogrammetry is a process which evaluates photographs to measure surfaces and physical objects. It has been in use since photography was invented and has many scientific, engineering, and mapping applications. In addition to the geospatial uses, the indexing of three-dimensional points of close-range objects and spaces, or stereophotogrammetry, has been employed widely in cinema, gaming, and other storytelling forms. In this process multiple cameras record a subject from many different angles and the footage is stitched together using special software. The result is a photorealistic scene that mimics the spatiality of real life.

On left: 2006AX7282_2500, Victoria and Albert Museum, 56.696 px/in, 2016. Gregory F. Brown (English, 1887-1941), Furnishing Fabric, 1922, 112 x 94 cm, Victoria and Albert Museum, London. This digital surrogate is © Victoria and Albert Museum, London.



Fig. 1

Figure 1

Stereophotogrammetry and special effects in The Matrix (1999), footnote 3.

In the Matrix films for example, stereophotogrammetry is combined with other special effects to show action from multiple perspectives in slow motion sequences (Fig. 1). The producers first created a digital 3D model using photographs from a scene. Then they used a time slice rig which contains many cameras that each film simultaneously from different angles around the action. Finally, they matched the camera angle in the film to the camera path of the time slice rig and layered the 3D model over the green screen background, allowing them to pan 360 degrees around the action in slow motion.¹² The effect reinforced the importance of the protagonist, Neo or 'The One,' to the

1 'Virtual Reality, HDR, Photogrammetry at ICT' (2008), available at: <https://www.youtube.com/watch?v=UUvAVjUnE8M> (accessed: 23 April 2016)

2 'The Matrix Behind The Scenes - Rooftop (1999) - Keanu Reeves Movie HD' (2014), available at: <https://www.youtube.com/watch?v=Kjcv-JtUOgA> (accessed: 23 April 2016).

storyline of the film by creating an illusion that he is absolutely in control of his actions in multiple dimensions of time and space.

The use of photographs to index three-dimensional spaces and objects in the real world is the basis for many other such illusions in digital spaces. Emerging from early and awkward 'CAVE' times,⁴ virtual reality (VR) is enjoying a resurgence thanks to advances in stereophotogrammetry, the ubiquity of game developers and frameworks, and the introduction of affordable VR headsets. The availability of the headsets, which create an illusion of depth using stereoscopy (displaying two images viewed from slightly different angles to match the binocular vision of human eyes) when viewing digital 3D spaces, has had the greatest impact on the means of production, resulting in new VR experiences in everything from gaming, to interactive documentary, to pornography.

Rather than stitching the images together *surrounding* a virtual space, the Google Earth application creates an interactive experience using millions of satellite photographs tiled together *onto* a virtual object. As users zoom into representations of the Earth, the moon, or Mars, more detailed tiles are downloaded and placed on the sphere's surface determined by the satellite camera's position, altitude, and camera angle. The Google Street View camera system, which can be mounted on cars, bikes, boats, snowmobiles, camelback,⁵ or humans using a special backpack,⁶ is the ultimate land-based stereophotogrammetry system. Equipped with 15 cameras and a range of sensors including GPS (Global Positioning System), wheel speed sensors, and laser range scanners, it can be used to photograph and index any site on earth.

Recent partnerships between Google and 17 top cultural institutions around the world now find the Street View technology being employed within the interiors of museums like The Louvre and the British Museum (Fig. 2, page 326).⁷ Similar to the Google Books effort, which attempted to scan and convert to searchable text all books in the world under the erroneous pledge of cultural benefit, Google Cultural Institute undertakes scanning the artwork and interiors of museums to make cultural material 'accessible to anyone, anywhere.'⁸ This openness rhetoric aligns with other utopian visions promised by Silicon Valley which play down the profit motive and discount problems their technology or actions may cause. For example, undertaking a digitization project of this nature triggers various complex copyright issues, and particularly as many institutions collect and show the work of living artists, or works that are not yet in the public domain. Also, when dealing with collections of objects curated from around the world it is important to

3 'Zo zien de scenes van bekende films en series er met en zonder special effects uit', n.d., available at: <http://www.bytez.nl/zo-zien-de-scenes-van-bekende-films-en-series-er-met-en-zonder-special-effects-uit/> (accessed: 23 April 2016).

4 'The Rise and Fall and Rise of Virtual Reality', n.d., available at: <http://www.theverge.com/a/virtual-reality> (accessed: 23 April 2016).

5 'Pakai Unta, Google Petakan Padang Pasir Kamis' (9 October 2014), available at: <http://wartakota.tribun-news.com/2014/10/09/pakai-unta-google-petakan-padang-pasir> (accessed: 23 April 2016).

6 'Google Street View scales Snowdon using camera backpacks' (11 December 2015), available at: <http://www.bbc.com/news/uk-wales-north-west-wales-35064087> (accessed: 23 April 2016).

7 Collett-White, M., 'Google Offers Virtual Tours of 17 of the Top Museums Using Street View Technology', n.d., available at: <http://artdaily.com/news/44628/Google-Offers-Virtual-Tours-of-17-of-the-Top-Museums-Using-Street-View-Technology> (accessed: 23 April 2016).

8 Google Cultural Institute website, n.d., available at: <https://www.google.com/culturalinstitute/about/> (accessed: 23 April 2016).

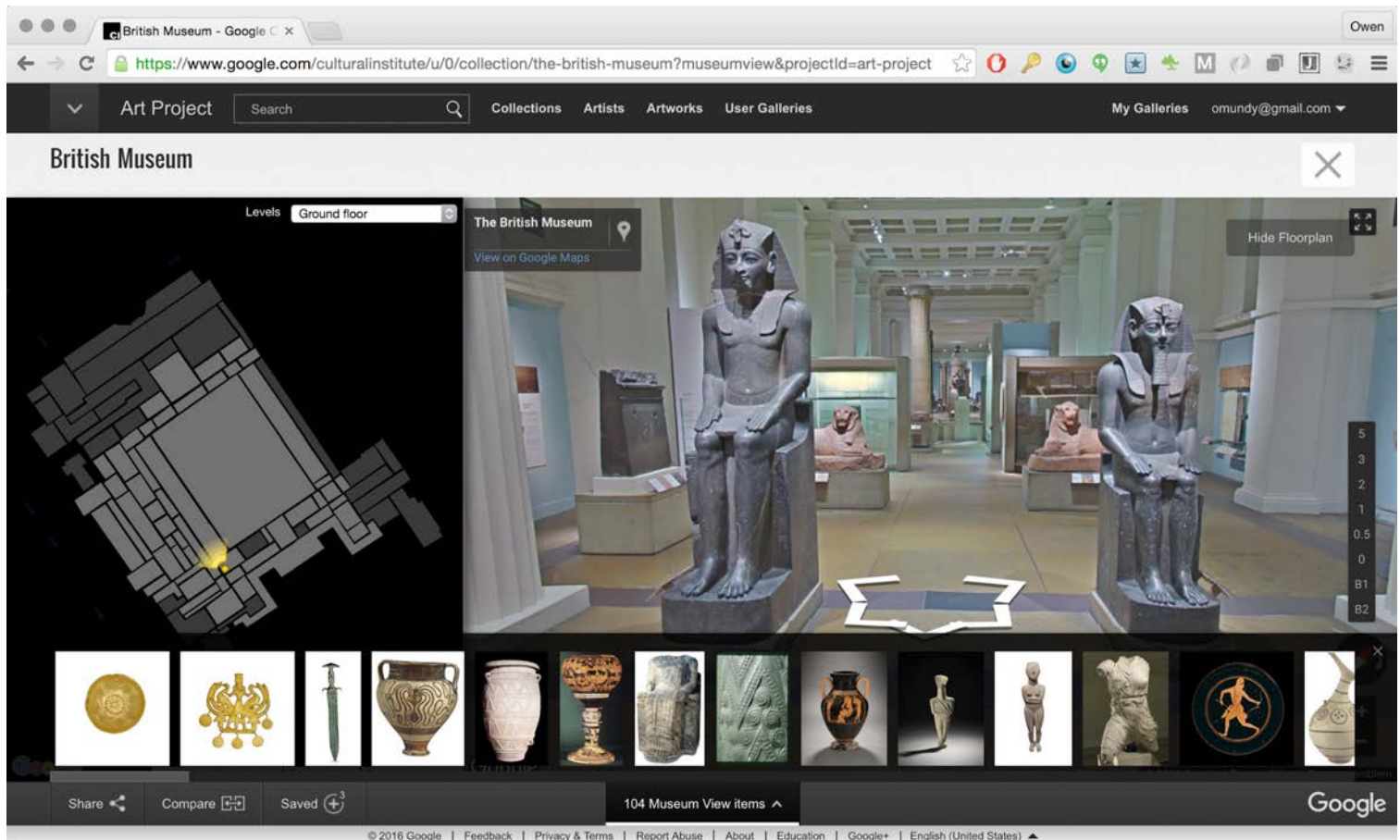


Fig. 2

Figure 2

*The British Museum,
Google Cultural Institute,
accessed: 23 April 2016.*

be aware that each country has distinct laws governing intellectual property, and each may have to be considered. And of course, each cultural institution will have their own attitude to and policy on the reproduction of works in their collection.

However, unlike the Books project,⁹ Google Cultural Institute has apparently taken steps to preempt lawsuits. In addition to espousing the cultural benefit of their work, they've partnered with the relevant institutes, obtained permission from copyright owners, and notably have invested into a research lab in Paris to inspire and create connections between art, culture, and technology. Google's service to culture should be noted, but their goal is most likely to further secure dominance in all ways that information is consumed online. Like their other 'free' products, the Google Art Project introduces new ways to mine and assess data about human activities for a company that reported recently that 90% of their \$74.5 billion revenue came from advertising in 2015.^{10,11} It is also potentially a part of their European project that, like their funding of the lab in Paris and the Institute for Internet and Society at Humboldt University in Berlin, is intended to sway public opinion in Europe towards sympathy for the software giant given recent debates over data privacy and whether or not Google's practices are monopolistic.¹²

9 Meyer, R., 'After 10 Years, Google Books Is Legal' (20 October 2015), available at: <http://www.theatlantic.com/technology/archive/2015/10/fair-use-transformative-level-google-books/411058> (accessed: 23 April 2016).

10 'Distribution of Google's revenues from 2001 to 2015, by source', n.d., available at: <http://www.statista.com/statistics/266471/distribution-of-googles-revenues-by-source/> (accessed: 23 April 2016).

11 'Annual revenue of Google from 2002 to 2015 (in billion U.S. dollars)', n.d., available at: <http://www.statista.com/statistics/266206/googles-annual-global-revenue/> (accessed: 23 April 2016).

12 'Independent Research Institute for Internet and Society starts with four partners' (2011), available at: https://www.hu-berlin.de/de/pr/pressemitteilungen/pm1107/pm_110711_01 (accessed: 23 April 2016).



Fig. 3

Figure 3

'No photography or sketching' sign in the Victoria and Albert's new exhibition, 'Undressed: A Brief History of Underwear,' Photograph by Oliver Wainwright/Guardian, accessed: 22 April 2016.

Of course, Google can access and digitize these spaces and objects because Google is a company with very deep pockets. Unlike Google, an ordinary museum visitor will enjoy little to no bargaining power when dealing with an institution, and will be bound by whichever photography policies the institute has in place. These policies nearly always prohibit the visitor from using his or her photographs for commercial purposes regardless of whether the photo was taken using a smartphone or professional grade equipment. For example, using equipment

like a tripod in the British Museum requires special permission and the images are restricted to noncommercial use.¹³ Other museums might go so far as to ban visitor photography, or even sketching. (Fig. 3).¹⁴ To be sure, Google's position is a privileged one.

ART, ARTISTS AND 3D PRINTING

Consider the experience of two non-corporate creators making use of stereophotogrammetry. Inspired by Marcel Duchamp's famous chess set, artists Scott Kildall and Bryan Cera used photographs to digitally reconstruct the game as a 3D printable model (Fig. 4, page 328). In their view, their use of archival photos of Duchamp's hand-carved game resurrected the work and revived interest in the artist. When they shared their process and uploaded the digital files allowing anyone to download and print the model they felt it a conceptual gesture which acknowledged Duchamp's own art practice of the readymade, which was itself an act of appropriation and recontextualization.

Since Duchamp created the chess set before 1923, in the United States the work is in the public domain. However, that does not mean the work is in the public domain everywhere in the world. The complexities of the international copyright regime are discussed elsewhere in this collection.¹⁶ For our purposes, what is important is that the Duchamp Foundation disagreed with Kildall and Cera. The Foundation claimed the reconstructed chess set violated Duchamp's copyright in France (according to the standard European copyright term of the life of the author plus 70 years).¹⁷ In their cease and desist letter to the artists the Foundation stated the reconstruction was an illegal adaptation and that, even if no money was collected through the distribution of the files online, under French law they may be liable for substantial penalties and even imprisonment.

If the issue was to be determined solely by US law, the artists could rely on a number of strong defences including the fact that the original was created in 1918 (and so was out of copyright) as well as various arguments concerning lawful fair use. Ultimately,

¹³ The British Museum, 'Photography: Taking photographs in the museum', n.d., available at: http://www.britishmuseum.org/about_us/services/photography.aspx (accessed: 23 April 2016).

¹⁴ Wainwright, O., 'No sketching': V&A signs betray everything the museum stands for' (22 April 2016), available at: <http://www.theguardian.com/artanddesign/2016/apr/22/va-museum-no-sketching-signs-draconian> (accessed: 24 April 2016).

¹⁵ Noe, R., 'Combining Detective Work, CAD, and 3D Printing to Recreate Duchamp's Lost Chess Set from 1918' (9 July 2014), available at: <http://www.core77.com/posts/27268/Combining-Detective-Work-CAD-and-3D-Printing-to-Recreate-Duchamps-Lost-Chess-Set-from-1918> (accessed: 23 April 2016).

¹⁶ Torremans, P., 'Copyright infringement, exceptions and limitations and access to shared cultural heritage across borders.'

¹⁷ Norton, Q., 'The International Fight Over Marcel Duchamp's Chess Set' (8 September 2015), available at: <http://www.theatlantic.com/technology/archive/2015/09/the-international-fight-over-marcel-duchamps-chess-set/404248/> (accessed: 23 April 2016).



Fig. 4

Figure 4

Duchamp original chess set (top), process image and final 3D print from the artists (middle, bottom), footnote 15.

their work was a creative homage to Duchamp, intended to spark conversation about Duchamp's legacy and practice in the context of the information age. However, faced with potentially hefty court costs and a possible prison sentence, the artists gave in to the Foundation's demands and removed the digital files from the internet. Whether or not this outcome was actually in the best interests of the Foundation and their mission to further establish appreciation of the work of Duchamp is open to debate. But it demonstrates the difficulties – legal, financial, and otherwise – that individual creators face when they are interested in re-imagining our existing cultural heritage in new, inno-



Fig. 5

Figure 5

Free Universal Construction Kit, footnote 19.

vative, and provocative ways. Had Google proposed this idea to the Duchamp Foundation, the result might well have been different.

The Duchamp Chess Set also shows how reproduction, modification, and distribution are deeply rooted in contemporary cultural practice, and a misunderstanding of these phenomena can actually do more harm than good for organizations and rightsholders like the Duchamp Foundation. This issue has even greater implications when considering the rise in the

use of 3D printing for fan art. 'The technology is coming whether we like it or not,' says Michael Weinberg, a lawyer at Public Knowledge, an organization which advocates for an open Internet. Rather than using resources to attack individuals and websites with takedown notices for sharing copies of such works, he encourages copyright owners to learn to embrace the technology and fans who use it.¹⁸

Unlike 'ripping' music or films from physical media to a computer, the process Kildall and Cera used to digitize the physical object is neither automatic nor instantaneous. The artists used photographs to 'trace' the chess set by hand, manually locating points in the image on screen in order to maintain proportionality. It's a technical and creative process in its own right which requires both meticulous attention to detail and knowledge of the medium. This is done using tools like Autodesk's 123D, Rhino3D, or various other CAD (Computer Aided Design) software.

When Golan Levin and Shawn Sims created the Free Universal Construction Kit (Fig. 5) they used the above process, drafting the objects on the computer with measurements taken from photographs or by hand. The kit, which was developed jointly at the Studio for Creative Inquiry, includes nearly 80 adapter bricks to allow intersection between popular children's construction toys and is meant to encourage 'new forms of dialog between otherwise closed systems – enabling radically hybrid constructive play.'

The artists' viewpoint is that with all the proprietary building block systems available a public service is needed to meet the needs of the children (or adults) who want to think and build based on their creative limits, not the constraints of the various patents and commercial interests at work. The Free Universal Construction Kit includes adapters between Lego, Duplo, Fischertechnik, Gears! Gears! Gears!, K'Nex, Krinkles (Bristle Blocks), Lincoln Logs, Tinkertoys, Zome, and Zoob. These adapters can be freely downloaded as a set of 3D models in .STL format, for reproduction on any 3D printer.

¹⁸ Henn, S., 'As 3-D Printing Becomes More Accessible, Copyright Questions Arise' (19 February 2013), available at: <http://www.npr.org/sections/alltechconsidered/2013/02/19/171912826/as-3-d-printing-become-more-accessible-copyright-questions-arise> (accessed: 23 April 2016).

¹⁹ Levin, G. and S. Sims, 'Free Universal Construction Kit' (2012), available at: <http://studioforcreativeinquiry.org/projects/free-universal-construction-kit> (accessed: 23 April 2016).

As a general rule, while creative works such as art, literature, and music are protected by copyright, objects which perform a function or are useful in some way, like interlocking bricks, are covered by other forms of intellectual property, such as design and patent law. The philosophy behind protection for patents is similar to that for creative works – protecting commercial interests in order to encourage the development of new ideas, while at the same time setting a defined term of protection so that, at some point, the work is released back to society for reuse, development, and improvement. Unlike the lengthy terms of protection that copyright works enjoy, patents are typically protected for no longer than 20 years. When Levin and Sims created their Free Universal Construction Kit they deliberately avoided possible claims of patent infringement by only releasing adapters for older systems first. For eight of the ten building systems that feature in their work, relevant patents have already expired; the final two, Zoob and ZomeTool, will be released in 2016 and 2022 respectively.²⁰

This subversive yet (literally) playful action is intended to overcome limitations introduced by mass-produced culture. It smartly walks the line between fine art, design innovation, and creative disturbance by combining a thoughtful and provoking rhetoric with a utilitarian system to challenge passive consumerism and allow the interconnection of toys which previously couldn't fit together. It shows that while 3D printing is still very new to the world it offers 'the same disruptive potential as the original printing press.' In the same way 'moveable type spread across Europe and democratized knowledge, the proliferation of 3D printers eventually promises to democratize creation.'²¹

The two examples discussed above evidence only one of many ways to translate real objects into digital 3D representations. More automated processes like 3D scanning take many forms. Some scanners actually make contact with the objects they scan, probing the surface and collecting measurements, while non-contact based scanners collect information about a subject's surface and volume using lasers or other radiation projected at the object.

The more accessible and therefore potentially copyright-infringing methods use a process similar to the photogrammetric procedure described above. Non-contact passive light scanning, which could be performed with very specialized equipment or even a smartphone, use ambient light to construct 3D objects. Like Google Earth or time slice rigs used in films, they make multiple photographs around the subject, stitching them together by linking recognizable points on the surface to create a three-dimensional point cloud. Taking this process a step further, the point cloud can be converted into polygons and cleaned up in a way that, if done with high enough precision, can be output to a CNC (Computer Numerical Control) machine such as a 3D printer or laser cutter.

This is the method that artists Nora Al-Badri and Jan Nikolai Nelles claimed to use to covertly make a 3D scan of the famous bust of Queen Nefertiti inside the Neues Museum in Berlin (Fig. 6). The bust of Nefertiti is a 3,300-year old work of art found in Egypt by German archaeologists in 1912. Controversy has surrounded the bust since it was

20 Free Art and Technology [F.A.T.] Lab and Sy-Lab, 'The Free Universal Construction Kit' (20 March 2012), available at: <http://fffff.at/free-universal-construction-kit/> (accessed: 23 April 2016).

21 Hanna, P., 'The next Napster? Copyright questions as 3D printing comes of age' (6 April 2011), available at: <http://arstechnica.com/tech-policy/2011/04/the-next-napster-copyright-questions-as-3d-printing-comes-of-age/> (accessed: 23 April 2016).



Fig. 6



Fig. 7

Figure 6

'The Other Nefertiti,'
footnote 24.

Figure 7

'The Other Nefertiti,' instal-
lation at the Something Else
Off Biennale in Cairo.

found and brought to Germany, with Egypt claiming it had been taken illegally, and the museum refusing its return.²² In addition to releasing the printable 3D files online for free,²³ the artists created an exact copy of the original in polymer resin which will reside permanently in the American University in Cairo in place of the actual bust (Fig. 7).

The Neues Museum's visitor policy prohibits photography, yet the artists claim they were able to make enough images using what appears to be a Microsoft Kinect in the video they released. This statement is not without its own controversy, as experts who have analyzed the artists' file state it is very detailed, containing over nine million polygons, and bears a striking resemblance to the museum's own digital scan of the bust. Whether or not they actually created the file themselves, the artists' effort to 'repatriate' the bust, while sharing its digital copy online, has proved highly effective in provoking difficult questions regarding the history of the collection of disputed artefacts by western museums and private collections.

²² Watson, R., 'Is the "Stolen" 3D Scan of Nefertiti Actually a Larger Hoax?' (17 March 2016), available at: <http://skeptichick.org/2016/03/is-the-stolen-3d-scan-of-nefertiti-actually-a-larger-hoax/> (accessed: 23 April 2016).

²³ Nelles, J.N. and N. Al-Badri, 'Nefertiti Hack', n.d., available at: <http://nefertitihack.alloversky.com/> (accessed: 23 April 2016).

²⁴ Voon, C., 'Artists Covertly Scan Bust of Nefertiti and Release the Data for Free Online' (19 February 2016), available at: <http://hyperallergic.com/274635/artists-covertly-scan-bust-of-nefertiti-and-release-the-data-for-free-online/> (accessed: 23 April 2016).

CONCLUSION

Cultural institutions are either embracing or ignoring the changes brought about by the information age. While some organizations partner with Google, or hold 'scanathons' to digitize and release scans of huge numbers of their objects into the public domain (like The Metropolitan did in collaboration with Thingiverse.com), others appear to be significantly behind the curve. This is important because as society continues the turn towards a software-based culture where what exists is only that which is accessible and freely shared, those who maintain closed systems and prohibit appreciation of their cultural property will find fewer and fewer audiences to patronize, support, and equally contribute their appreciation to new audiences. Unlike the increased commodification of culture by corporations with vast legal teams, museums and cultural institutions should be the first to realize that the more accessible and understandable they make their collections, the more likely they will grow and become a central site for cultural understanding.

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Technology and Cultural Heritage Preservation

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INTRODUCTION

With the ongoing conflict in the Middle East, particularly in Syria and northern Iraq, which has made it extremely difficult to monitor the situation on the ground or engage in physical preservation, technology as a means of preserving cultural heritage has come to the fore. Archaeologists have long used evolving technological methods, based on various scientific disciplines, to ensure retrieval and study of all aspects of past human life, including dating methods based on carbon-14 dating of organic materials and thermoluminescence tests of ceramics and fired materials. But the use of technological innovations to study, protect, and reconstruct the remains of the past has developed at a rapid pace over the past five years, urged on by wreckage caused by the destructive forces of armed conflict and looting of sites, particularly in the Middle East.

The term 'preservation' of cultural heritage has come to signify a variety of methods and goals and is often used interchangeably with other more specific terms. If we view preservation as an over-arching concept, we may categorize preservation into four steps or aspects: (1) documentation; (2) protection; (3) conservation and reconstruction; and (4) replication or reproduction. This essay will examine three of these aspects of cultural heritage preservation, omitting the third step. Conservation and restoration of sites and cultural objects are long recognized methods of preservation. They routinely utilize various scientific techniques and are often largely based in chemistry and other physical sciences, depending on the material from which the site, structure or object is made. However, although a specialist in conservation may disagree, this field has not seen the same recent explosion in applications of technological and scientific methods that have been harnessed to advance the other three aspects of preservation. This essay is therefore limited to examples of developments in the three aspects that have occurred during the past five years – a date that happens to coincide with the outbreak of the 'Arab spring' conflicts, which have been disastrous for both human life and human history throughout much of the Middle East and North Africa.

On left: D36235_10, Tate, 107.527 px/in, 2016. Joseph Mallord William Turner (English, 1775-1851), The Burning of the Houses of Parliament, 1834-1835, Watercolour and gouache on paper, 30 x 22.1 cm, Tate, London. This digital surrogate is © Tate, London.



Fig. 1

Figure 1

CyArk, Assyrian Collection of the British Museum, *The Black Obelisk*, © CyArk, cyark.org, accessed: 22 April 2016.

DOCUMENTATION

Documentation of moveable and immovable cultural materials in the absence of conflict has long been a method for expanding knowledge about the past and for securing the physical integrity of objects. While documentation is not, by itself, a method of preservation or protection of objects and sites, it may be said that in order to preserve something, one needs to know what one has. Archaeologists, anthropologists, art and architectural historians, and urban historians have long surveyed sites and physical structures as a means of determining and recording extant remains. Documentation of museum and other collections has long been a fundamental practice of cultural, historical, and artistic studies. Today such documentation is carried out largely through inventories based on digital photography when available and is crucial to the recovery of objects that may be stolen and to allowing further study when the objects themselves are not available.

In a relatively recent innovation, several groups are utilizing laser and digital technology to record and document the world's cultural past. One such organization, CyArk, uses 'new technologies to create a free, 3D online library of the world's cultural heritage sites before they are lost to natural disasters, destroyed by human aggression or ravaged by the passage of time' (CyArk n.d.). The technology uses 3D scanners that measure points resulting from bouncing a laser light off the surfaces of structures. The data points are then joined to produce a solid 3D model, which is coloured based on photographs, re-

sulting in a 'photo-real 3D model' which may be used for further study, education and, when feasible, conservation of the original. While this method holds significant promise for digitally 'preserving' cultural sites, particularly the built environment, the only site located in the region most under threat in Syria and Iraq that is listed as one of the CyArk projects is the Nineveh region, located near the modern Iraqi city of Mosul.

On a larger scale, the Getty Conservation Institute and the World Monuments Fund have partnered to create the Arches project. This is an 'open source, web- and geospatially based information system that is purpose-built to inventory and manage immovable cultural heritage' (Getty Conservation Institute n.d.). The prototype of the Arches project was the Middle Eastern Geodatabase for Antiquities (MEGA)-Jordan, an inventory of archaeological sites in Jordan, which allows entry of data with basic computer skills and equipment (MEGAJordan n.d.). MEGA-Jordan contains entries for more than 10,000 sites and is used for management of construction and development near archaeologist sites as well as a means of protecting sites.

Archaeologists over time have focused less on the excavation of sites and have turned instead to less destructive (and less costly) methods of research that allow them to recover information. These techniques include survey, carried out through field survey (or field walking) and the use of aerial reconnaissance, such as drones, to map remains (Hill et al. 2014). Other technologies, such as ground-penetrating radar, permit archaeologists to map structures located below the surface (Urban et al. 2014), while still others allow aerial survey in parts of the world where forests and other vegetation preclude the use of more standard aerial surveillance (Preston 2013).

Particularly following the US-led invasion of Iraq in 2003 and the ensuing large-scale looting of archaeological sites in southern Iraq, archaeologists turned to the use of remote-sensing techniques, primarily aerial photography and satellite imagery, to document the looting of sites (Stone 2008). The loss of the contextual information, as well as of many of the artefacts that were considered less desirable on the international market, produced a devastating effect on our knowledge and understanding of the past. In some cases, archaeologists compared recent satellite images with older aerial photos taken of the same sites to detect rates of damage and destruction caused not only by looting but also by other threats to archaeological heritage, such as irrigation, farming, and development (Hanson 2012). Extensive mapping of archaeological looting has been carried out now in Egypt (Parcak 2015). In one innovative project, aerial photography is combined with on-the-ground research both to delineate the site and to document looting patterns over time (Salopek 2014).

The damage and destruction of cultural sites in Syria and Iraq caused by all sides in the conflict, which began in March 2011, and much publicized by the Islamic State of Iraq and the Levant (ISIL), have turned research away from documenting what of the past remains to documenting what has been lost. Several academic and research groups, based both in the United States and in Europe, use various forms of remote-sensing and satellite imagery to document the ongoing destruction of cultural and religious sites in Syria and northwestern Iraq (Wolfenbarger et al. 2014a; 2014b; al Quntar et al. 2015; Casana 2015). These efforts may be useful when the conflict ends for purposes of both reconstruction and war crimes prosecutions for those who destroyed cultural heritage in violation of international law.

PROTECTION

Physical protection of sites during time of armed conflict or natural disaster is much more difficult to achieve than documentation of what is preserved or what is destroyed. However, the use of geospatial technologies is now providing one such method through the creation of ‘no-strike’ lists (sometimes also called cultural inventories). International law, primarily through the 1954 Hague Convention on the Protection of Cultural Property during Armed Conflict as well as customary international law, prohibits the targeting of cultural sites unless excused by imperative military necessity (Gerstenblith 2014). In order to avoid targeting of cultural sites and to minimize collateral damage to such sites, those responsible for targeting must have access to information as to where such sites are located.

The symbol of the Blue Shield is designated in the 1954 Hague Convention as the cultural equivalent of the Red Cross or Red Crescent to mark cultural property to be protected and to signify cultural heritage professionals. Founded in 1996, the International Committee of the Blue Shield consists of 23 national committees and 24 national committees in the process of formation. These committees are tasked with working with the military of their respective States to make them aware of their obligations to protect cultural heritage. One of the more active is the US Committee of the Blue Shield, which has undertaken the responsibility of creating ‘no-strike’ lists for the areas of the world that are subject to current conflict, including Libya, Syria, and Iraq (USCBS n.d.).

REPLICATION AND REPRODUCTION

Replication or reproduction of cultural objects and even of sites on a larger scale is also not a new phenomenon. What is termed ‘replication’ here should be distinguished from the making of forgeries, which are intended to deceive as to the true origin of a particular work. Museums and even theme parks have long made replicas, and the accuracy of such replicas is dependent on available technology and the scale to which the replica is made. However, with the recent destruction of both sites and objects in the Middle East, particularly that perpetrated by ISIL, the desire to adapt new technologies to enable greater authenticity and greater accessibility to sites and objects has spurred the production of replicas.

In response to the photos posted by ISIL in February 2015 of intentional destruction of artefacts on display and stored in the Mosul Museum, Matthew Vincent and Chance Coughenour initiated Project Mosul, now known as Rekrei. By combining archaeological knowledge, web development and photogrammetry, the goal is ‘to promote digital preservation of lost cultural heritage using crowdsourced data in a cooperative, open-source project’ (Rekrei n.d.). The project works by crowd-sourcing as many photographs as possible of the destroyed objects that were taken before their destruction. From the composites or ‘digital surrogates’ made from those photographs, faithful replicas may be produced through three-dimensional printing (Biggs 2015). The Project Mosul website posts images of the objects reconstituted through 3D printing of these composites. The crowdsourcing function serves not only to reconstruct the object itself but can also assist in law enforcement efforts if the portable objects have been sold onto the market, rather than being destroyed. Individuals who made replicas are invited to post images on the 3D Gallery maintained on the website, and both movable objects and sections

of destroyed immovable structures, such as the Temple of Bel and the Elahbel Tower Tomb at Palmyra which ISIL destroyed in the summer of 2015, are reproduced.

A similar project, #NewPalmyra, started in the fall of 2015, after the widespread publicity given to the intentional destruction of the Temple of Bel, the Temple of Baalshamin, and several of the tower tombs at the World Heritage Site of Palmyra, dating to the Roman period and located in central Syria. The goal of #NewPalmyra is to create a virtual reconstruction of the site. It also aims to create a broader network of scholars, artists, technologists, architects and others to create the models and other artistic works to be shared in the public domain (#NewPalmyra n.d.).

In another project, sponsored by the Institute for Digital Archaeology, Italian architects are recreating the Triumphal Arch from the Temple of Bel using 3D robotic printers in the Carrara Mountains. The recreation went on display in London's Trafalgar Square in April of 2016 and may be exhibited in New York's Times Square before it is taken to the site of Palmyra, from which ISIL was expelled by Russian and Assad regime forces in late March 2016 (Euronews 2016; Bacchi 2016; Institute for Digital Archaeology n.d.).

The Institute for Digital Archaeology (the IDA) combines the documentation aspect of cultural heritage preservation with efforts to aid in reconstruction. Founded in 2012 as a cooperative project among Harvard University, the University of Oxford, and Dubai's Museum of the Future, its original purpose was the use of new forms of technology, including digital imaging and 3D printing techniques, to document historic and archaeological remains. The documentation projects range from recording of Ptolemaic inscriptions, other epigraphic and text-based projects, to recording of sites in Sicily, study of ancient Greek ceramics and transcription of a newly discovered palimpsest text in the Vatican Library. In perhaps its most ambitious project, the IDA is creating the Million Image Database, modeled on Wikipedia but with the goal of collecting images to document heritage objects and sites throughout the world. The IDA distributes small 3D cameras to volunteer photographers to collect images of heritage objects and sites, while also digitizing paper archives and collecting images from institutions and individuals who donate them to the project. The Million Image Database is expected to become available in April 2016.

As the goal of the IDA is stated, which could apply to all of the projects discussed here, with the adoption of the most modern technologies to preserve the past, we 'can put these crucially important repositories of our cultural identity and shared history forever beyond the reach of those who would destroy them' (Institute for Digital Archaeology n.d.). Remote-sensing, crowd-sourcing, digital imagery, three-dimensional reproduction and other technologies have all contributed to maximizing our ability to recover and understand the past and to preserving the memory of the past from the displacement and destruction that we are now witnessing in the Middle East. Out of the ashes of this destruction have emerged the unexpected benefits of new ways to study, understand, and appreciate the past.

The ability to use these advanced technologies to re-create objects of the past poses some new questions as well. For example, if the faithful reproduction is allowed to be and is accepted as a substitute for the original, does it matter whether we still have the original or is the reproduction sufficient as a means to study, observe, and enjoy the past?

This also leads to questions about who has the right to re-create and determine the authenticity of the past. One such example is the protest against the plans to reconstruct the site of Palmyra while the conflict is still on-going, without adequate participation by a large cross-section of the Syrian people (both specialists and the general population), and without time for reflection of what should be preserved, what should be discarded, what should remain in a newly ruined state, and what of the destruction caused by ISIL should be preserved to become part of the cultural memory of more recent as well as the ancient past. The proposal to place at the site the reproduction of the triumphal arch created by the Institute for Digital Archaeology has received particular opposition and the unveiling of the replica of the Arch in London was greeted with controversy and disapproval, with it labelled as 'Disneyland' archaeology (Bacchi 2016).

In line with their emphasis on new technologies, these groups also tend to favour free access, either by foregoing entirely rights to which they might be entitled under relevant copyright law or by releasing material under a Creative Commons licence. Conversely, any rights to which such a group would be entitled would be very 'thin' as the underlying works are typically in the public domain and the reproduction is generally intended to be as faithful to the original as possible. Moving beyond copyright, some of the projects discussed here implicate patent law because they involve creating open-source software; yet, the same open approach prevails.

Whereas economic rights are often relinquished, attribution is often claimed. This emphasis on the moral right of attribution alone may seem altruistic but may also mask an economic motive. The products of these technologies probably have relatively little economic value, particularly given the limited nature of the copyright protection. Most of these groups subsist on grants to fund further work, rather than on the sale of their products. Therefore, attribution, as a means to achieve the recognition required for future grant successes, helps to ensure the necessary economic support. It remains to be seen whether these open approaches signify the future trend of cultural institutions generally or will remain common only among smaller projects restricted to the preservation of cultural heritage through the use of innovative technologies to document, protect, and reproduce the past.

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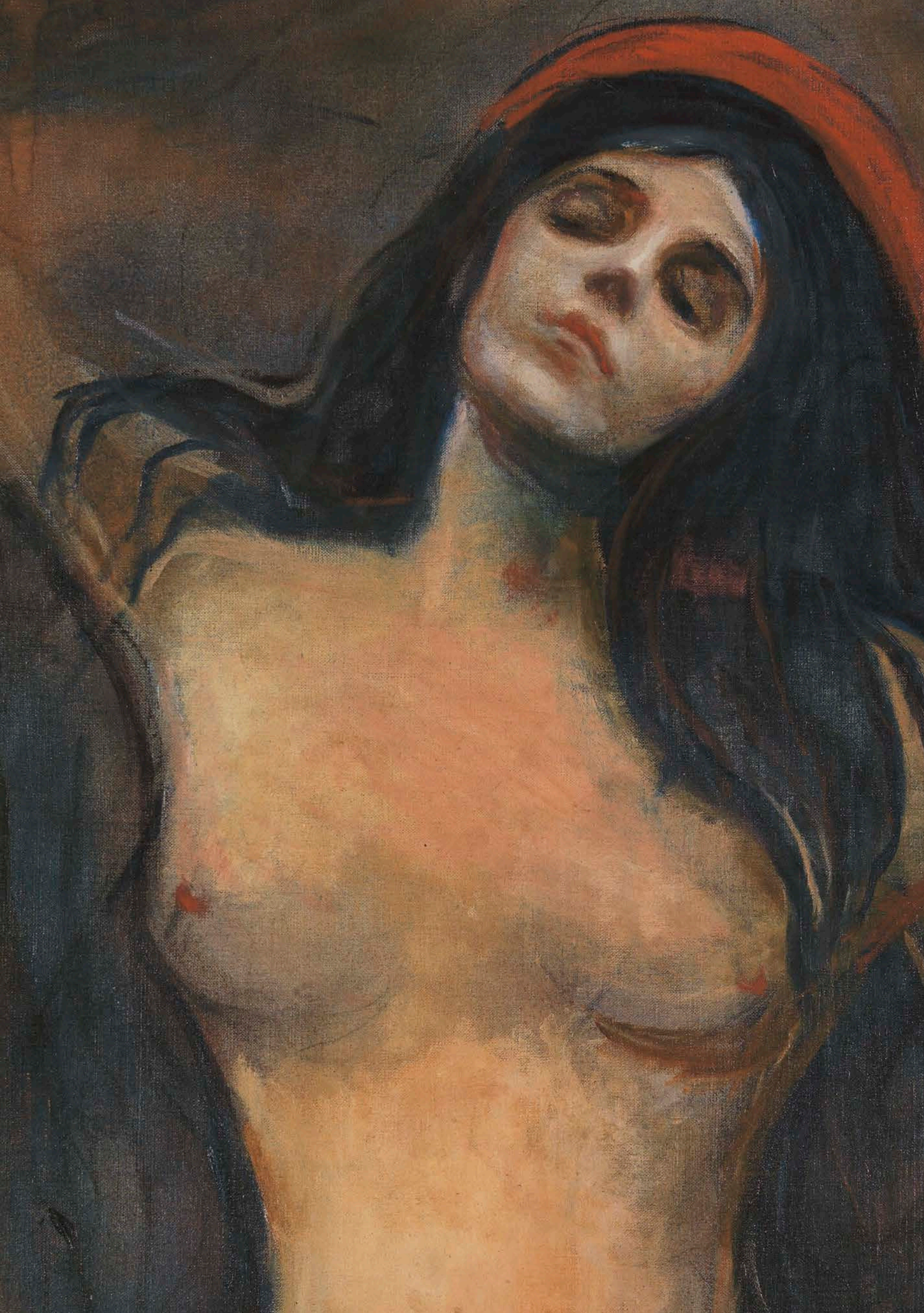
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